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May 1, 2007

C. Megan Urry and Charles L. Bennett  
Co-Chairs  
Committee on Astronomy and Astrophysics  
Board on Physics and Astronomy  
National Academy of Sciences  
500 Fifth St. NW  
Washington, D.C. 20001

Dear Meg and Chuck:

AURA has followed closely the discussion over the approach and structure of the next Decadal Survey. We applaud the efforts of the CAA to open this process up to public input at an early stage.

At the April 25-28<sup>th</sup> AURA Annual Meeting in Tucson, an in-depth discussion was held to hear the views of our Member Representatives and Board Members concerning the Decadal Survey. As you know, our membership is broadly representative of the community of UV/OIR and solar astronomers. One major consensus emerged from this discussion that we believe should be taken into account in structuring the Decadal review process.

There was general recognition that the degree of progress in many of the initiatives from the 2000 Decadal Survey was such that the panel would consider whether they should be re-prioritized. We are certain that there will be many arguments for and against such a process for each project.

However, one project merits special consideration. The Advanced Technology Solar Telescope (ATST) has progressed well technically over the past several years and is currently held in the "readiness" phase within the MREFC process. As the first major astronomy project to be considered under the new MREFC process, its pace has been, to some extent, affected by the development of the new policies themselves. Currently, the project is awaiting final resolution and a record of decision regarding the Environmental Impact Statement.

We believe that the ATST should proceed as rapidly as possible and should not be re-prioritized against new projects that might be proposed. The ATST is crucial to the development of ground based solar astronomy within the U.S. community and will be a vital component of international collaboration.

In characterizing the role of ATST, the 2007 NSF Facilities Plan states that *"As the first new large solar telescope constructed in nearly 30 years, and*

***because of the new range of scientifically compelling questions that ATST can address, its construction is expected to rejuvenate the solar research community in U.S. universities. As a national facility, ATST would enable training of the next generation of solar physicists and instrument builders at the graduate and undergraduate levels. ATST is poised to become the world's flagship facility for the study of solar activity."***

The scientific goals for ATST remain valid and will not be addressed by any other facility. In addition, there has been a growing recognition over the past several years that ATST provides a valuable synergy with NASA's Solar Dynamics Observer. In the 2007 report of the Astronomy and Astrophysics Advisory Committee, a major conclusion was as follows: ***"The AAAC recommends that NSF move ATST quickly through the MREFC process to a New Start to take advantage of the scientific synergies that will arise from overlap with the NASA Solar Dynamics Observatory (SDO), to minimize both the carrying costs for AST of a project post-PDR and the impact on other major astronomy projects that are potential MREFC funding recipients, and to realize one of the goals of the Senior Review, namely the focus of activities on new, more powerful facilities."***

Finally, the ATST is vital to the entire US national solar community as it will replace existing ground-based solar facilities. The Senior Review, in defining the base program for solar astronomy, stated: ***"Development of ATST is a key part of the current solar astronomy base program. The remainder of the SR's recommendations in solar astronomy is predicated on ATST progressing in a timely manner through the MREFC process....The proposed solar program, centered on ATST, has broad and enthusiastic support throughout the solar community."***

It is notable that in the AURA Members round table discussion, a wide variety of disciplines was represented by the participants. Indeed, only a small minority could be said to be solar astronomers. Yet there was an overwhelming consensus for the scientific value of ATST and the need to take advantage of the considerable effort and economic investment done so far.

Therefore we strongly recommend that the CAA and the next Decadal Survey give ATST its strong support and retain the priority given to it by the last Decadal Survey.

Sincerely,

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cc: Wayne Van Citters