



UNIVERSITY OF CALIFORNIA OBSERVATORIES/LICK OBSERVATORY  
DEPARTMENT OF ASTRONOMY AND ASTROPHYSICS

SANTA CRUZ, CALIFORNIA 95064

June 30, 2006

Dr. Arden L. Bement, Jr., Director  
National Science Foundation

Dr. Samuel W. Bodman, Secretary of Energy  
U.S. Department of Energy

Dr. Michael D. Griffin, Administrator  
National Aeronautics and Space Administration

Dear Dr. Bement, Secretary Bodman, Dr Griffin:

In early 2005, the Astronomy and Astrophysics Advisory Committee (AAAC), along with the High Energy Physics Advisory Panel (HEPAP), chartered the Dark Energy Task Force (DETF) as a joint subcommittee to advise NSF, DOE and NASA on how to move forward on a coordinated program of dark-energy research. The DETF has completed its report and that report (attached) has been accepted and transmitted to your agencies by the AAAC.

The DETF members undertook an extensive, thorough scientific study on how to make progress on understanding dark energy. In the process of their study the DETF solicited and received a large number (50) of "white papers" from the science community. More explicitly, the report:

- (1) Establishes a quantitative framework for comparing how well different scientific approaches and observational techniques would improve our knowledge of dark energy.
- (2) Provides guidance on what areas and approaches would most likely lead to significant improvements in our understanding of dark energy in the near term (over ~5 years). These DETF Stage III programs would cost roughly a few to tens of millions of dollars.
- (3) Provides guidance on evaluating the scientific merits of three long-term (Stage IV) major proposed projects: a Large Survey Telescope (LST) on the ground, a space-based Joint Dark Energy Mission (JDEM), and a major radio project (the Square Kilometer Array SKA). These are ~\$0.5-1B+ (lifecycle cost) programs.

The AAAC looks forward to working with the agencies in using the DETF report to move forward on a cost-effective, competitively-selected and coordinated program of research into one of the greatest scientific questions of our time.

Sincerely yours, on behalf of the Committee,

Garth D. Illingworth,  
Chair, Astronomy and Astrophysics Advisory Committee

Cc:

OSTP: John Marburger, Rob Dimeo

DOE: Ray Orbach, Robin Staffin

NASA: Mary Cleave, Colleen Hartman, Rick Howard

NSF: Kathie Olsen, Judith Sunley, Wayne Van Citters, Dana Lehr

OMB: Amy Kaminski, Joel Parriott, John Sloan, David Trinkle

AAAC Members:

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