

Dark Energy Task Force

Call for White Papers on Dark Energy Theory

Submission deadline: 30 September 2005

In February 2005 the NSF-NASA-DOE Astronomy and Astrophysics Advisory Committee (AAAC) and the NSF-DOE High Energy Physics Advisory Panel (HEPAP) established a Dark Energy Task Force (DETF) as a joint subcommittee to advise NSF, NASA, and DOE on the future of dark energy research.

The names of the DETF committee members, as well as the charge to the committee, may be found at <http://www.nsf.gov/mps/ast/detf.jsp>.

The DETF was asked to advise the agencies on the optimum near- and intermediate-term programs to investigate dark energy and, in cooperation with agency efforts, to advance the justification, specification and optimization of a ground-based Large Survey Telescope (LST) and a space-based Joint Dark Energy Mission (JDEM). The DETF will prepare a final report for submission to the AAAC and HEPAP with a target date of December 2005.

In particular, the DETF was charged to:

1. Summarize the existing program of funded projects by projected capabilities, systematics, risks, required documents, and progress-to-date.
2. Summarize proposed and emergent approaches and techniques for dark energy studies; that is, characterize these approaches and techniques by the added value the projected capabilities would provide to the investigation of dark energy.
3. Identify important steps, precursors, R&D and other projects that are required in preparation for JDEM, LST and other existing or planned experiments.
4. Identify any areas of dark energy parameter space that the existing or proposed projects fail to address.

We expect that the DETF will prioritize techniques for studying dark energy but will not rank specific projects.

In the present landscape of the study of dark energy, we expect numerous experiments leading up to JDEM and LST. Because the funding agencies will use the DETF report to help direct their resources, it is important for the committee to have information about various approaches to understanding dark energy.

In May 2005 the DETF issued a call for white papers that describe experimental approaches to understanding dark energy. In addition to these experimental project descriptions, the Task Force is interested in theoretical and other supporting research in support of understanding dark energy. We thus invite interested parties to submit white papers describing ancillary research on the issue of dark energy, including (1) theoretical approaches to the study of dark energy and (2) theory, modeling and simulations necessary for the success of observational programs.

White papers should not exceed 5 pages and must be submitted before 30 September 2005 to Edward Kolb (rocky@fnal.gov). Thank you very much for your help.