U.S. Department of Energy
and the
National Science Foundation

MAY 28 2004

Professor Frederick Gilman
Carnegie Mellon University
5000 Forbes Avenue
Pittsburgh, Pennsylvania 15213

Dear Professor Gilman,

This letter is to request that the High Energy Physics Advisory Panel, in cooperation with the Astronomy and Astrophysics Advisory Committee of NASA and NSF, establish a joint sub-committee to address the future of research on the polarization of the cosmic microwave background.

BACKGROUND

Recent discoveries concerning the Cosmic Microwave Background (CMB) have redefined the scientific landscape for cosmology, astrophysics and high-energy physics.

The National Science and Technology Council (NSTC) report on the Physics of the Universe[1] listed a number of recommendations, one of which is "The three agencies [DOE, NASA, NSF] will work together to develop by 2005 a roadmap for decisive measurements of both types of CMB polarization. The roadmap will address needed technology development and ground-based, balloon-based, and space-based CMB polarization measurements."

CHARGE

We are asking the HEPAP to produce a report to provide the funding agencies with a clear picture of the connected, complementary experimental approaches to the exciting scientific questions about CMB polarization. A key element of this report will be a technology roadmap that can contribute to the agencies' long range planning. In order to meet the NSTC recommendation, a Task Force on CMB Research (TFCR) should be set up as a joint sub-committee of the High Energy Physics Advisory Panel (HEPAP) and the Astronomy and Astrophysics Advisory Committee (AAAC). The report will be produced by this sub-committee. For operational convenience, the NSF will administer the TFCR.

Although the principal goal of the TFCR is a roadmap leading to a measurement of both modes of polarization, there is no restriction from considering other aspects of CMB research.

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[1] A 21st Century Frontier of Discovery: The Physics of the Universe, A Strategic Plan for Federal Research at the Intersection of Physics and Astronomy, a Report of the Interagency Working Group on the Physics of the Universe, National Science and Technology Council Committee on Science, February 2004 (http://www.ostp.gov/html/physicsoftheuniverse.pdf)

REPORTING

The TFCR Chair is responsible for preparing the final report, in consultation with all TFCR members. In accordance with FACA rules, this report will be discussed independently at the first meetings of the HEPAP and the AAAC following completion of the report, before formal presentation to the agencies. We request that a draft report be made available by January 2005, with the final report submitted before May 2005.

We wish you success in this challenging and important endeavor.

Raymond L. Orbach
Director, Office of Science
U.S. Department of Energy

Michael S. Turner
Assistant Director for Mathematical and Physical Science
National Science Foundation

cc: R. Staffin, SC-20
P.K. Williams, SC-20
K. Turner, SC-20
B. Strauss, SC-20

G.W. van Citters, NSF
N.A.Sharp, NSF