



National Science Foundation
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NSF 12-043

Dear Colleague Letter: Announcement of a Redirection in the Funding of Detector Development and Related Activities in Underground Physics by the Division of Physics

Date: 01/10/2012

In the last few years, the Division of Physics (PHY) has supported R&D directed at future generation underground physics experiments in a potential deep underground laboratory in the U.S. In FY 2012 consideration of underground infrastructure for a Long Baseline Neutrino Experiment and other related activities has been shifted to the Office of Science at the Department of Energy. This Dear Colleague Letter (DCL) is meant to inform the community that, in response to this shift of responsibility, PHY is redirecting its related investments from a primary focus on future generation experiments to one that emphasizes the greatest potential for scientific discovery that will evolve over the next decade. The scope of this ongoing program considers, in a site-independent and generation-independent way, the near- and mid-term development of detectors and related activities in underground physics.

The importance of the physics that is enabled by deep underground locations has been stressed by multiple scientific assessment panels over the last decade [see, for example, the most recent study performed by the National Academy of Sciences, "An Assessment of the Deep Underground Science and Engineering Laboratory", http://www.nap.edu/catalog.php?record_id=13204.] The investment announced in this DCL is consistent with the ongoing practice in PHY to support world-class, transformational research at all three frontiers of particle physics, including those questions at the cosmic and intensity frontiers that can only be addressed by means of state-of-the-art detectors placed underground. It also continues the long-standing interagency partnership between PHY and DOE's Office of Science in this area of physics, as the agencies and the community adapt to the recent shift in responsibilities.

Subject matter for activities in this area may be interpreted broadly, but includes such topics as searches for dark matter, neutrino-less double beta decay, underground nuclear astrophysics, neutrino oscillations, proton decay, and other physics topics that require an underground environment. Proposals may request funds to support activities related to the development of underground physics experiments, including research and development, engineering and design, detector construction and deployment, operations and maintenance, and/or other activities on the critical path to significant scientific advances. Related information may be found on the Particle and Nuclear Astrophysics (PNA) home page at: http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5633&org=PHY&from=home.

Proposals are required to be prepared and submitted in accordance with general guidelines contained in the Grant Proposal Guide or the NSF Grants.gov Application Guide. These documents are available electronically at the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg&WT.z_pims_id=5633 and http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide. Proposals should be submitted to the Particle and Nuclear Astrophysics program and reference this DCL. The target date for submission is May 1, 2012. Applicants are requested to contact the cognizant Program Director in PHY prior to submission.

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