Charge to MUSE Review Panel
National Science Foundation
Department of Energy
March 24-25, 2014

The MUSE collaboration has submitted a proposal to the National Science Foundation requesting support for the measurement of electron and muon scattering from the proton in order to address the "proton radius puzzle." Support is also requested from the Office of Nuclear Physics of the Department of Energy (DOE). Given the complexity and cost of the proposed project, NSF, in partnership with DOE, is convening a panel to review the collaboration plans for this experiment. The panel is requested to:

- Evaluate the scientific merit of the proposed experiment. In particular, address the timeliness and potential impact of the experiment, taking into account other similar experimental efforts world-wide.
- Evaluate the technical feasibility of the experiment, and the appropriateness of the technical scope and performance deliverables.
- Evaluate the broader impact to society of the proposed experiment, including training and mentoring activities, and the impact on other scientific areas.
- Evaluate the effectiveness of the proposed management organization, including the availability of key personnel having the necessary management and technical skills to successfully complete the experiment, the expected effectiveness of the proposed management plan and the accompanying method for reporting the project's technical and financial status, partnership arrangements and how international participation will be coordinated, oversight of major sub-awards and subcontracts, and the approach to risk identification and mitigation.
- Evaluate the experiment's proposed budget, including adjustment for identified risks and uncertainties and the identification of budget, scope, and schedule contingency. Is a significant portion of the total budget estimate based on externally provided data (vendor quotes or estimates, catalog prices, etc.) and do they give high confidence that the proposed scope of work can be accomplished within the proposed budget and schedule?
- Evaluate the proposed schedule for completion of the experiment and the accompanying funding profile. Advise NSF and DOE on whether the proposed work plan is expected to result in the lowest cumulative cost (the year-by-year budget should be planned to enable the project to accomplish tasks at the maximum technical rate. The rate of accomplishment should not be limited by the availability of construction funds.) .

A written report addressing these questions is requested by April 11, 2014, and will provide critical input to the NSF and DOE as we decide whether to move forward with funding for this experiment.