

LBNE Collaboration Statement

For discussion at the 16 July 2014 LBNE institutional Board Meeting.

The US is proposing to host a world-leading neutrino program including a grand vision for a long-baseline neutrino facility (LBNF), which would be an internationally designed, coordinated and funded program. The existing LBNE collaboration (518 members from 88 institutes in 8 countries) welcomes the recommendations of the P5 panel and recognizes the need to form a new international collaboration to turn this vision into reality. We are looking forward to engaging with all interested parties to realize the P5 vision, and in particular with the international neutrino community through the process initiated by Fermilab and the US DOE.

The LBNE collaboration has developed a strong physics case and technological designs for a facility. As described in the LBNE Science Opportunities Document (arXiv:1307.7335) the collaboration has presented a program with:

- a large on-axis underground LAr far detector(s) (with a total fiducial mass of at least 34 kt) at a baseline of 1300 km;
- a highly capable near detector;
- a wide-band, high-power neutrino beam based on the PIP-II upgrade at Fermilab.

This unique world-class neutrino facility would meet the scientific goals of probing CP violation, determining the mass hierarchy, and testing the three neutrino oscillation paradigm with high precision, as well as searching for nucleon decay and being sensitive to supernova neutrinos.

We look forward to the discussion and evaluation of all options to optimize the scientific reach of the internationally designed, funded and coordinated LBNF. We believe that the configuration presented by the LBNE collaboration should serve as the starting point for these discussions. We believe any reformulation should not lead to significant delays in the start of physics, which would inevitably reduce the competitiveness of the experiment and would lessen the attractiveness of LBNF to the global neutrino community.

The P5 report endorses a world-leading neutrino program hosted by Fermilab. We look forward to engaging with the worldwide community to pursue this great opportunity.