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The LAGUNA-LBNO Project

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LAGUNA-LBNO is a Design Study funded by the European Commission to develop the de- sign of a deep underground neutrino observatory; its physics program involves the study of neutrino oscillations at long baselines, the investigation of the Grand Unification of elementary forces and the detection of neutrinos from known and unknown astrophysical sources. Building on the successful format and on the findings of the previous LAGUNA Design Study, LAGUNA-LBNO is more focused and is specifically considering Long Baseline Neutrino Oscillations (LBNO) with neutrino beams from CERN. Two sites, Fréjus (in France at 130 km) and Pyhasalmi (in Finland at 2300 km), are being considered. Three different detector technologies are being studied: Water Cherenkov, Liquid Scintillator and Liquid Argon. Recently the LAGUNA-LBNO consortium has submitted an Expression of Interest for a very long baseline neutrino experiment, selecting as a first priority the option of a Liquid Argon detector at Pyhasalmi.

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