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ESSnuSB project

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ESSnuSB is a design study for an experiment which will attempt to measure CP violation in lepton sector by observing neutrino oscillations at the second muon neutrino to electron neutrino oscillation maximum. The very intense neutrino beam will be generated by uniquely powerful (5 MW average) ESS linear proton accelerator, which is currently under construction near Lund, Sweden. The experiment will feature near detectors located close to the beam source, and a half megatonne water Cherenkov far detector. The signal of CP violation at the second oscillation maximum is expected to be three times of that on the first one, which significantly increases the ratio between the signal and the systematic uncertainty, and thereby the physical reach of the project. This talk will shortly describe the ESSnuSB project, concluding with a brief report on the ongoing activities in evaluating the detector performance.

Collaboration name

ESSnuSB

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