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The ESSvSB+ project

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The European Spallation Source neutrino Super Beam plus (ESSvSB+) project has recently been approved by the EU for a 4-year design study. It aims at measuring the neutrino-nucleus cross-section, which represents the dominant systematic uncertainty in the measurement, in the energy range of 0.2 −0.6 GeV, as well as perform searches for sterile neutrinos using a Low Energy nuSTORM (LEnuSTORM) and a Low Energy Monitored Neutrino Beam (LEMNB). ESSnuSB+ follows the ESSnuSB design study project 2019-2022 that resulted in a conceptual design of ESSnuSB and an evaluation of its high performance for leptonic CP violation measurements which is due to that the measurements will be made at the second, rather than the first, oscillation maximum, where the sensitivity of the experiment is close to 3 times higher than at the first maximum. This paper reviews the ESSnuSB design-study results and presents the planned ESSnuSB+ design study.

Funding Agency

Footnotes

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