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Status of the ESSvSB Target Station Design

In the search for the CP-violation in the leptonic sector, the next generation of neutrino experiments will consider new baselines and technologies to improve their sensitivity on δ_{CP} parameter. The future ESSvSB experiment aims at searching this asymmetry at 5σ significance level, in more than 60% of the leptonic Dirac δ_{CP} violating phase range, and measuring the phase value with precision, by using a very high intensity neutrino beam generated with the European Spallation Source 5 MW linac in Lund (Sweden) allowing the installation of the far neutrino detector at the second oscillation maximum.

Several technological challenges must be studied before the design of the ESSvSB experiment. In particular, the design of the Target-Station producing the neutrino super-beam from the proton linac beam is one of the highest priorities at this phase of the project. We will report on the ongoing target-station design efforts.

Mini-abstract

ESSvSB experiment aims for the CP-violation search in the leptonic sector at 5σ significance level

Experiment/Collaboration

ESSvSB Collaboration

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