

The ESSnuSB+ Target Station

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The next generation of neutrino experiments promises significant progresses in physics beyond Standard Model with a high discovery potential regarding in particular the matter/antimatter asymmetry and the mass hierarchy. One of the key points will be to use high intensity neutrino superbeam in combination with mega-ton scale detectors.

In Europe, the ESSnuSB project realized a conceptual design study of a new superbeam facility based on the 5 MW proton linac of the European Spallation Source. This facility will offer the possibility measure the δ_{CP} phase at 8° precision level.

The new phase of the project, called ESSnuSB+, will investigate the possibility to add complementary facilities like a Low Energy nuSTORM ring and a Low Energy Monitored beam to study complementary physics such the cross-section measurement and the sterile neutrino hypothesis.

This new project will adapt the concept of a the ESSnuSB target station to the requirements of the complementary facilities. In this poster, the progress of the ESSnuSB+ Target Station study will be presented.

Poster prize

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