

# Progress towards a program of searches for neutron conversions at the European Spallation Source with the HIBEAM/NNBAR experiment

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Baryon number violation (BNV) is needed to explain the origin of the matter-antimatter asymmetry and routinely appears in theories which extend the Standard Model of particle physics. However, BNV is yet to be observed. The HIBEAM/NNBAR program is a two stage set of experiments (HIBEAM then NNBAR) to search for neutron conversions to sterile neutrons and anti-neutrons at the European Spallation Source. The ultimate aim of the program is extend the sensitivity of BNV searches by three orders of magnitude compared with previous searches. This talk shows progress on all major aspects of the program: the neutron moderator source, beamline and focusing and detector design. Estimates of the sensitivity of the searches are also given. A focus is placed on the HIBEAM stage.

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