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Towards first neutrons for neutron beta decay observations with PERC

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The Proton Electron Radiation Channel (PERC) experiment will investigate the decay of the neutron by observing spectra of the emerging electrons and protons, and several correlations between neutron spin, and the electron, proton, and neutrino momenta. Its aim is in particular to improve on the parity violating beta asymmetry, and the Fierz term by an order of magnitude. PERC is under construction in the guide hall east of the FRM II and will use the intense cold beam of the MEPHISTO beam line.

In this talk, we will highlight the scientific impact on the current Cabibbo angle anomaly and the unitarity of the Cabibbo-Kobayashi-Maskawa matrix, and the techniques to search for novel scalar and tensor interactions. We present the recent significant progress of the instrument and beamline, and discuss the route to the start of the science program next year.

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