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Coherent elastic neutrino-nucleus scattering and the NUCLEUS experiment

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The coherent elastic neutrino-nucleus scattering (CEvNS) is a unique process to study neutrino properties and to search for new physics beyond the Standard Model, from Weinberg angle at low momentum transfer to sterile neutrinos. The NUCLEUS Collaboration aims to detect the coherent elastic scattering of neutrinos on nuclei using reactor (anti)neutrinos, in the fully coherent regime - no other experiment succeeded yet to measure CEvNS with reactor (anti)neutrino. This talk will review the physics potential of CEvNS and will present the status of the NUCLEUS experiment and its synergy with the dark matter research program at HEPHY.

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