

## Coherent elastic neutrino nucleus scattering with the CONUS experiment

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The CONUS experiment is located at the nuclear power plant of Brokdorf, Germany, at 17m distance from the reactor core. It aims at detecting coherent elastic neutrino nucleus scattering with four high-purity point contact Germanium detectors with a noise threshold in the range of a few hundred eV inside an elaborate shield.

Before the setup of the experiment, the location, especially the potential neutron-induced background, has been characterized thoroughly with Bonner Sphere measurements, gamma-ray measurements with non-shielded Ge spectrometers as well as MC simulations. It will be shown in the talk that inside the detector chamber no reactor thermal power correlated background is expected.

Moreover, the low background rate of this shallow depth experiment is achieved by a multilayer shield with increasing radiopurity towards the center including an active muon veto and layers of borated polyethylene. All materials have been selected carefully beforehand via material screening. The efficiency of these background suppression techniques will be shown as well as detailed studies of the remaining background contributions using MC simulations.

The analysis and latest results of the first full physics run based on 1 month of reactor off time and 6 months of reactor on time will be presented. An outlook on planned upgrades and midterm feasible physics goals with the CONUS setup will be given.

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