



Contribution ID: 11

Type: **Invited**

## Coherent elastic neutrino nucleus scattering with the CONUS experiment

*Saturday 9 November 2019 15:50 (20 minutes)*

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 300 eV inside an elaborate shield. Proximity to a reactor core requires an in-depth understanding of the neutron background. The thorough characterization of the background with Bonner sphere measurements and a non-shielded Ge spectrometer will be presented and the successful suppression of all reactor-correlated background contributions within the CONUS shield will be shown. The remaining background contributions are examined with the help of Monte Carlo simulations. The special requirements for a detector close to a nuclear power plant will be discussed and the solutions will be presented. In the talk it will be illustrated how these challenges are met for the CONUS experiment. The long-term performance of the detectors and the latest results will be shown.

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**Session Classification:** Current reactor experiments and CCDs

**Track Classification:** Current/near-term experiments