

# Theoretical sensitivity to neutrino electromagnetic properties through CE $\nu$ NS with reactor antineutrinos

## Content

In this work, a theoretical sensitivity analysis of neutrino electromagnetic properties is presented through coherent elastic neutrino–nucleus scattering (CE $\nu$ NS) using reactor antineutrinos. The nuclear recoil spectrum and the expected number of events are calculated for different target materials, including both the Standard Model contribution and possible modifications arising from the neutrino magnetic moment, electric dipole moment, anapole moment, millicharge, and effective charge radius. Based on these predictions, a statistical analysis using a chi-square ( $\chi^2$ ) function is constructed to estimate sensitivity limits and to compare the impact of each electromagnetic property on the expected signal.

## Summary

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