

# The Latest Results on New Physics Searches in Low-Energy Electron Recoils from the LZ Experiment

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The LZ experiment, located at the Sanford Underground Research Facility in Lead, South Dakota, utilises a dual-phase xenon time projection chamber (TPC) with a 7-ton active volume to detect dark matter candidates. Recently, the LZ experiment announced world-leading sensitivity results in one of the strong candidates for dark matter, Weakly Interacting Massive Particles (WIMPs), based on a total exposure of  $4.2 \pm 0.1$  tonne-years achieved over 280 live days of LZ operation. In this talk, I will present a search for beyond standard model physics using electronic recoil signature. This research investigates several models, including solar axion-like particles, and the electromagnetic interactions of solar neutrinos such as magnetic moment, and millicharge. The study also examines axion-like particles, hidden photons, and mirror dark matter models as potential candidates for dark matter.

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