

Abstract Submitted
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Ultra-high-resolution microcalorimeter detectors for photon and charged-particle detection MINESH BACRANIA, Los Alamos National Laboratory, LANL/NIST MICROCALORIMETER DETECTOR COLLABORATION — We will present our work on the development of ultra-high-resolution microcalorimeter detectors for X-ray, gamma-ray, alpha-particle, and electron spectroscopy. These detectors, based on superconducting transition-edge sensors, offer five to twenty times better energy resolution over conventional silicon and germanium detectors. This presentation will discuss the physics and technology of microcalorimeter detector systems and highlight recent measurement results relevant to nuclear safeguards and nuclear forensics. We will also discuss potential application of these detectors to photon and charged-particle measurements for fundamental nuclear-physics research.

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