

BULLKID: Array of particle absorbers sensed by Kinetic Inductance Detectors

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BULLKID is a R&D project aiming to pair an array of Kinetic Inductance Detectors with a diced silicon absorber, achieving mass scalability up to the Kg scale and high segmentation. An average baseline resolution of 100 ± 10 meV makes it a suitable detector for low-energy processes such as direct interactions of dark matter and coherent elastic neutrino-nucleus scattering. The above ground unshielded operation of this prototype has led to the characterization of a background level of $2 \cdot 10^6$ counts/(keV·kg·day) flat down to an energy threshold of 160 eV. We present the status of the project and its future development towards an improvement in terms of threshold and active volume of the detector.

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