

BULLKID - Bulky and low-threshold kinetic inductance detectors

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BULLKID is an R&D project on a new superconducting cryogenic particle detector to search for rare low energy processes such as low-mass dark matter and neutrino coherent scattering off nuclei. The detector unit we are building consists in an array of 60 silicon absorbers sensed by phonon-mediated, microwave-multiplexed Kinetic Inductance Detectors (KIDs), with energy resolution on nuclear recoils around 100 eV and total mass of 20 g. The single detector unit is engineered to ensure a straightforward scalability to a future kg-scale experiment. In this talk we will describe the proposed technology, based on the CALDER team experience on KIDs as phonon mediated particle detectors, the first measurements and the future plans.

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