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## Designing and testing a phonon-mediated Kinetic Inductance Detector with phonon-funneling volume

Experiments searching for light dark matter or coherent elastic neutrino-nucleus scattering need to adopt detectors achieving very low energy thresholds, such as cryogenic phonon detectors. The phonon-mediated detection of silicon particle absorbers has been already proved with Kinetic Inductance Detectors, acting as phonon collectors and sensors at the same time.

We developed a first prototype of KID coupled to a separate structure of phonon absorbers for improving the sensitivity of the detector. This consists of a thin KID trilayer of Aluminium/Titanium/Aluminium coupled to a large Aluminum phonon collecting volume. With this contribution, we would present the studies and simulations we carried out and preliminary results to test the performances of such a new device, compared with those of a standard KID.

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