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BULLKID-DM: searching for light WIMP with monolithic arrays of detectors

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BULLKID-DM is a new experiment to search for hypothetical WIMP-like Dark-Matter particles with mass around 1 GeV/c^2 and cross-section with nucleons smaller than 10-41 cm^2. The target will amount to 600 g subdivided in 2500 silicon dice sensed by phonon-mediated kinetic inductance detectors. With respect to other solid-state experiments in the field the aim is to control the backgrounds by creating a fully active structure and by applying fiducialization techniques. The experiment is intended to be placed at the Gran Sasso laboratories. After the encouraging results of a 20 g prototype, here we present the first results from a demonstrator array of 60 g and 180 silicon dice, the simulations of the experiment and the projected Dark Matter sensitivity.

Primary author: VIGNATI, Marco (Istituto Nazionale di Fisica Nucleare)

Presenter: VIGNATI, Marco (Istituto Nazionale di Fisica Nucleare)

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