

The demonstrator of BULLKID-DM: Commissioning and first results

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BULLKID-DM is a novel experiment to search for WIMP-like dark matter with mass around $1 \text{ GeV}/c^2$. The detector consists of an array of silicon targets sensed by multiplexed Kinetic Inductance Detectors (KIDs). The detection principle consists in sensing athermal phonons produced in the crystal by particle interactions. BULLKID-DM will deploy 600 g of active silicon target, segmented in more than 2500 detector units in order to allow background identification and rejection via single-site/multi-site analysis.

The project is currently operating on surface a demonstrator array consisting of 180 detector units of 0.35 g each for a total active mass of 60 g.

In this poster we present the construction, the operation and the data analysis of this array.

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