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Development of low threshold detectors for light dark matter detection

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We developed a 5x5x5 mm³ crystal detector with an MMC readout. The detector was designed to achieve low energy threshold for direct detection of low mass dark matter. A pure CaF₂ crystal was adopted as a target. This absorber crystal had a strong thermal contact to a metallic magnetic calorimeter (MMC) sensor via thin gold film evaporated on its surface. The MMC sensor and the gold film were directly bonded together using cold diffusion welding. We will present the result of the detector performance together with the detector model of the heat flow.

Less than 5 years of experience since completion of Ph.D

Y

Student (Ph.D., M.Sc. or B.Sc.)

Y

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