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Cosinus - Cryogenic Dark Matter searches with NaI crystals

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Cosinus is a R&D project aiming for the cryogenic operation of NaI-crystals to search for elastic dark matter scattering. NaI-crystals are scintillating and the combined measurement of the scintillation light and the phonon signal allows a precise measurement of the deposited energy and a good separation between signal and background events. However, NaI is hygroscopic and requires a special treatment during the construction of the modules. In addition, the scintillation properties of NaI at cryogenic temperatures have not been measured yet. First results and future plans for operating a NaI crystals at cryogenic temperatures will be present. A dark matter direct detection experiment with NaI crystals operating at cryogenic temperatures would provide additional information for the understanding of the dark-matter claim by the DAMA/LIBRA collaboration.

Experimental Collaboration

COSINUS Collaboration

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