

Background free double-beta decay investigation with CUPID-0

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A convincing observation of neutrino-less double beta decay ($0\nu\text{;DBD}$) pivots on the possibility of operating high-energy resolution detectors in background-free conditions. The CUPID-0 experiment is the first step of a next generation project based on cryogenic calorimeters equipped with light detectors able to measure the scintillating light produced in the scintillating absorbers for particle identification. In 2016 we completed the assembly of 26 ^{82}Se scintillating calorimeters (about 2×10^{25} $0\nu\text{;DBD}$ emitters), and started the data taking. In this contribution we present the status and the preliminary results of CUPID-0 and the perspectives of a next generation project based on this technology.

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