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Current status and perspectives of the LUCIFER experiment

A convincing detection claim of neutrinoless double beta decay $0\nu\text{DBD}$ demands for detectors with excellent energy resolution and zero background in the energy region of interest.

For this purpose, the LUCIFER project is developing a detector that combines the calorimetric signal and the scintillation light produced by ZnSe scintillating bolometers.

The identification and rejection of the alpha interactions, as well as the large Q-value of the emitter, that lies well above the 2.6 MeV line of ^{208}Tl , guarantee a very low background in the energy region of the ^{82}Se $0\nu\text{DBD}$.

Despite the small mass of ~ 17 kg, LUCIFER will reach a 90% CL sensitivity of $0.6 \cdot 10^{26}$ y on the half-life of the decay.

In this poster we will present the current status and perspectives of the project.

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