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【378】Identification of 137Xe like a background for 0vbb searches with DARWIN

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DARWIN is a proposed next-generation xenon observatory that will be sensitive, among other rare interactions, to the neutrinoless double beta decay of 136Xe. Future experiments looking for this process will become more and more sensitive while the intrinsic radioactivity of the detector materials will be reduced thanks to the screening campaigns. This brings the risk that backgrounds previously considered negligible become important contributions. In this context, the cosmogenic production of 137Xe by the neutron capture of 136Xe can be relevant if our detector is not sitting at the enough depth. Simulations of muon-induced neutrons with Geant4 allow us to evaluate the production rate of 137Xe and its importance for these searches with DARWIN.

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