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## Constraining the $^{77(\text{m})}\text{Ge}$ Production with GERDA Data and Implications for LEGEND-1000

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The delayed decay of  $^{77(\text{m})}\text{Ge}$ , produced by neutron capture on  $^{76}\text{Ge}$ , is a potential background for the next generation neutrinoless double beta decay experiment LEGEND-1000 at the LNGS site. Based on Monte Carlo simulations, several mitigation strategies and suppression techniques have been proposed to identify and suppress this background [1,2,3]. So far, only weak experimental limits have been found on the production rate. We present new results from the GERDA experiment on the search for  $^{77(\text{m})}\text{Ge}$  by exploiting the isomeric state in  $^{77}\text{As}$ . Given the very similar configuration - bare germanium detectors in liquid argon - it serves as a benchmark for our LEGEND-1000 predictions. This research was supported by the BMBF through the Verbundforschung 05A20WO2 and by the DFG through the SFB1258 and the Excellence Cluster ORIGINS.

- [1] C. Wiesinger et al., Eur. Phys. J. C (2018) 78: 597
- [2] LEGEND-1000 pCDR, arXiv 2107.11462
- [3] M. Neuberger et al., 2021 J. Phys.: Conf. Ser. 2156 012216

### Submitted on behalf of a Collaboration?

Yes

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