

Abstract Submitted
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The Application of Delayed Coincidence Methods to Search for Beyond the Standard Model Physics¹ BADE SAYKI, Los Alamos National Laboratory, MAJORANA COLLABORATION — Neutrinoless double beta decay searches play a major role in determining neutrino properties. The MAJORANA Collaboration is operating an ultra-low background, modular high purity Ge detector array to search for this decay in ^{76}Ge . Located at the 4850-ft level of the Sanford Underground Research Facility, the DEMONSTRATOR detector assembly is showing that the necessary background rates for a Ge-based ton-scale design are in range for future ton-scale experiments. The low background and high energy resolution of MAJORANA allows for search for rare events, making it an excellent detector for beyond standard model physics. This talk will focus on the delayed coincidence analysis method. Mainly, this is a robust way of focusing on possible signatures due to axion-nuclear interactions. This method and reasoning can be used for search for bosonic dark matter, new sub-MeV bosons, axions, etc. Potential signatures, e.g. from an axion nuclear interaction, will be discussed, and current status of the analysis will be presented.

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Bade Sayki
Los Alamos National Laboratory

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