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Abstract for an Invited Paper
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Search for Majorana Neutrinos with Neutrinoless Double Beta Decay¹

WILLIAM FARIBANK, Colorado State University

h *–abstract–* \pard Neutrinoless double beta decay provides a special window into some of the most fundamental properties of neutrinos, that are still unknown: (1) whether or not neutrinos are their own antiparticles (Majorana neutrinos), (2) what are the masses of the three types of neutrinos, and (3) whether or not there is charge-parity (CP) symmetry breaking in neutrinos. The current status of neutrinoless double beta decay in addressing these questions will be reviewed. The author is involved in the EXO-200 and nEXO double beta decay experiments using liquid ¹³⁶Xe. Some new results from EXO-200 and plans for nEXO, a ton-scale experiment, will be presented. For the second phase of nEXO, a technique is being developed to “tag” single ¹³⁶Ba atoms that result from ¹³⁶Xe double beta decay. Progress on barium tagging will also be discussed. \fs20 \pard-/abstract-\

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