

Abstract Submitted
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Is there Significant Evidence for a Sterile Neutrino?¹ AARON ALLEN, Clemson University, NATHANIEL MOORE, University of Missouri-Columbia, DAVID ERNST, Vanderbilt University — Throughout the history of neutrino physics and neutrino experiments, there have been significant hints in the data that seemingly give rise to new implications for neutrino physics. Neutrino oscillations are the only experimentally verified particle phenomenon not accounted for in the Standard Model of particle physics. Evidence for a new type of neutrino has been proposed. In this project, we seek to re-analyze and reproduce key results from LSND and MiniBoone. Combining with existing analysis programs, we look to achieve a consistent data approach fitting into a 3+1 (sterile) neutrino scheme. Finding a neutrino such as this would have major effect on existing cosmological models as a new candidate for dark matter and the early development of the universe.

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