

Abstract Submitted
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Status of the KOTO experiment at J-PARC BRIAN BECKFORD¹,
University of Michigan — The KOTO experiment conducted at J-PARC was designed to observe the $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$ decay and measure its branching ratio. The current SM prediction for the branching ratio is 3.0×10^{-11} with a small theoretical uncertainty of about 2-3%. As a result of the favorable outcome of KEK E391, the KOTO experiment is intended to pursue the search with increased beam power, an upgraded data acquisition system, and improved detector hardware. The signature of the decay is a pair of photons from the π^0 decay and no other detected particles. For the measurement of the energies and positions of the photons, KOTO uses a Cesium Iodide (CSI) electromagnetic calorimeter as the main detector, and hermetic veto counters to guarantee that there are no other detected particles. The initial data was collected in 2013, followed by additional runs in 2015-2016 at beam powers of 24 and 40 kW, respectively. In this talk, we present a description of the upgrades and improvements to the detector, present status, and the latest results.

¹For the KOTO collaboration

Brian Beckford
University of Michigan

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