

Abstract Submitted
for the 4CS20 Meeting of
The American Physical Society

Improving STJ Detectors for the Next Phase of the BeEST Experiment SPENCER FRETWELL, Colorado School of Mines, THE BEEST COLLABORATION —

The BeEST Experiment is a search for keV scale sterile neutrinos using momentum reconstruction of ${}^7\text{Be}$ electron capture decay in superconducting tunnel junction (STJ) detectors. These detectors are capable of operating at count rates of $>1,000$ Hz while measuring the decay recoil energies with a resolution of 1 eV. While the BeEST has already produced competitive SN exclusion limits, future phases aim to improve these limits by several orders of magnitude through a new generations of multi-pixel arrays. In this talk we will present the progress of scaling the BeEST to large arrays with new materials to increase the sensitivity of the experiment in current and future phases.

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Date submitted: 09 Oct 2020

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