Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Sensitivity of SBN to eV-mass scale sterile neutrino oscillations JACOB LARKIN, Brookhaven National Laboratory, SBN COLLABORATION — The three-detector Short Baseline Neutrino (SBN) program, consisting of the SBND, MicroBooNE, and ICARUS detectors, will search for oscillations of neutrinos from the Booster Neutrino Beam at Fermilab. SBN will be sensitive to muon-neutrino disappearance and electron-neutrino appearance, facilitating searches for eV-mass scale sterile neutrinos in the region of parameter space motivated by the LSND and MiniBooNE anomalies. The CAFAna fitting framework was developed in the context of the NOvA experiment and can be used to fit simulated SBN data with a 3+1 sterile neutrino model. We will demonstrate the sensitivity, including the impact of systematic uncertainty, of the three-detector SBN program to eV-mass scale sterile neutrino oscillation using the CAFAna fitting framework.

Jacob Larkin
Brookhaven National Laboratory

Date submitted: 08 Jan 2021 Electronic form version 1.4