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A New Proposal of Beam Neutron Lifetime Experiment in Super-fluid Helium-4 Scintillator¹ WANCHUN WEI, California Institute of Technology — A large discrepancy in the measured neutron lifetime between the beam and bottle methods remains as a puzzle. More beam experiments of high precision, but with a different set of systematic effects, can greatly help in resolving the puzzle. In this report, we propose a new beam experiment at a sensitivity goal of 0.1

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