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The BL3 Neutron Lifetime Experiment

The goal of the BL3 Beam Neutron Lifetime Experiment is to improve the precision of beam-based neutron lifetime experiments to the 0.3 s level while performing a thorough evaluation of potential systematic effects at the same level to help resolve the neutron lifetime puzzle. This experiment will utilize an all new, larger apparatus with a larger proton trap and detector; an improved neutron flux monitor; and an upgraded version of the alpha-gamma device that provides the absolute calibration of the neutron flux monitor. This talk will discuss the measurement technique used by the BL3 experiment; the major improvements over previous similar experiments; a status update on the construction of the new apparatus; and a plan and timeline for mounting the experiment.

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