

Abstract Submitted
for the APR21 Meeting of
The American Physical Society

Neutron Radius of ^{48}Ca (CREX) Experiment Progress¹

RAKITHA BEMINIWATTHA, Louisiana Tech Univ, CREX COLLABORATION
— The CREX experiment has recently completed the high precision measurement of the parity-violating (PV) asymmetry of ^{48}Ca elastic electron scattering. The CREX experiment at Jefferson Lab measured the electroweak PV asymmetry to access neutron distributions of neutron-rich ^{48}Ca nucleus and obtain the RMS neutron radius of ^{48}Ca . Such precise measurement will have a significant impact on nuclear theory, providing a unique experimental input to help bridge ab-initio theoretical approaches used for light nuclei (including 3-neutron forces) and density functional theories appropriate for heavy nuclei. This talk will highlight the recent progress made by the CREX collaboration in required data analysis to achieve this precise measurement.

¹Louisiana Board of Regents Research Competitive Grant

Rakitha Beminiwattha
Louisiana Tech Univ

Date submitted: 08 Jan 2021

Electronic form version 1.4