

Cosmic Rejection for Proton Charge Radius (PRad) Experiment at Jefferson Lab *

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The PRad experiment (E12-11-106¹) was performed at Jefferson Lab in Hall B to address the proton charge radius puzzle. The experiment was designed to measure the proton charge radius through elastic electron-proton scattering process using a non-magnetic-spectrometer method. A pair of large GEM detectors and a high resolution calorimeter(HyCal) were utilized in the experiment. PRad experiment reached a very forward ep scattering angle and an unprecedented small four-momentum transfer squared region, Q^2 from 2×10^{-4} to $0.1(GeV/c)^2$. The experiment measures the proton charge radius by extracting the electric form factor of proton with a sub-percent precision. Removing cosmic contamination is critical to reach the experiment goal. In this talk, we will discuss the cosmic rejection methods adopted in the data analysis.

*This work is supported in part by NSF MRI award PHY-1229153, the U.S. Department of Energy under Contract No. DE-FG02-07ER41528, No. DE-FG02-03ER41240 and Thomas Jefferson National Laboratory, and PRad Collaboration

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