

Abstract Submitted
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Reanalysis of Rosenbluth measurements of the proton form factors ALEXANDER GRAMOLIN, DMITRY NIKOLENKO, Budker Institute of Nuclear Physics — We have reanalyzed¹ the elastic electron-proton scattering data from SLAC experiments E140² and NE11³. This work was motivated by recent progress in calculating the corresponding radiative corrections and by the apparent discrepancy between the Rosenbluth and polarization transfer measurements of the proton electromagnetic form factors. New, corrected values for the scattering cross sections are presented, as well as a new form factor fit in the Q^2 range from 1 to 8.83 GeV². Our reanalysis brings the combined results of the SLAC experiments into better agreement with the polarization transfer data, but a significant discrepancy remains for $Q^2 > 3$ GeV².

¹A. V. Gramolin and D. M. Nikolenko, Phys. Rev. C **93**, 055201 (2016)

²R. C. Walker *et al.*, Phys. Rev. D **49**, 5671 (1994)

³L. Andivahis *et al.*, Phys. Rev. D **50**, 5491 (1994)

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