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The Neutron Charge Form Factor at Low Q^2 EUGENE GEIS, RICARDO ALARCON, Arizona State University, MICHAEL KOHL, RICHARD MILNER, VITALY ZISKIN, MIT-Bates Laboratory, BLAST COLLABORATION
— At the MIT-Bates Linear Accelerator Center, the neutron charge form factor G_E^n has been measured by means of (e,e'n) quasielastic scattering of polarized electrons from vector-polarized deuterium. The experiment used the longitudinally polarized stored electron beam of the MIT-Bates South Hall Ring along with an isotopically pure, highly vector-polarized internal atomic deuterium target provided by an atomic beam source. The measurements have been carried out with the symmetric Bates Large Acceptance Spectrometer Toroid (BLAST) with enhanced neutron detection capability. From the beam-target double polarization asymmetry with the target spin oriented perpendicular to the momentum transfer the form factor G_E^n is extracted over a range of four-momentum transfer Q^2 between 0.12 and 0.60 $(GeV/c)^2$ with minimized systematic dependencies.

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