Abstract Submitted
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Studies of the Deuteron at High Four-Momentum Transfer[1] HASSAN IBRAHIM[2], Old Dominion University — Experiment E01-020[3] systematically explores the ^{2}H$(e,e'p)n$ reaction (electro-disintegration of the deuteron) over a broad kinematical range of four-momentum transfer, Q^2 = 0.8, 2.1 and 3.5 (GeV/c)^2, and missing momentum, p_m = 0.1, 0.2, 0.3, 0.4 and 0.5 GeV/c. This systematic approach will help to examine the reaction mechanism and short-distance structure of the deuteron. A separation of the longitudinal-transverse interference response function, R_{LT}, at the quasi-elastic peak will provide important constraints for relativistic theories of this reaction. Experiment E01-020 was performed in Hall A at Jefferson Lab in 2002. The physics motivations, run summary and experimental setup will be presented.

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