Deuteron Electro-Disintegration at Very High Missing Momenta

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The Deuteron Electro-Disintegration experiment (E12-10-003) at Jefferson Lab, Hall C is discussed. The experiment consists of using an electron beam to break up the Deuteron into a proton and neutron. The scattered electron is detected by the Super High Momentum Spectrometer (SHMS) in coincidence with the knocked out proton in the High Momentum Spectrometer (HMS) and the missing neutron is reconstructed from conservation laws. This experiment investigates an unexplored kinematic region at high missing momentum in which Final State Interactions (FSI) between the outgoing proton and neutron are small. In this regime, the neutron missing momentum is approximately equal to its internal momentum in the Deuteron enabling the extraction of momentum distributions from the measured cross-sections. A general theoretical background of the D(e,e'p) reaction and very preliminary results are presented.