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Measuring the electric form factor of the proton at high momentum transfer in Hall A at Jefferson Lab. GABRIEL NICULESCU, James Madison University, SBS COLLABORATION, HALL A COLLABORATION — For more than 50 years elastic electron scattering has provided a wealth of information about the structure of protons and neutrons through the extraction of nucleon form factors. These, in turn, have been the subject of intense theoretical scrutiny using various techniques ranging from first principles QCD calculations to several phenomenogical models. Moreover, as the first moments of the generalized parton distributions are related to the elastic Dirac form factors of the nucleon through model independent sum rules, elastic electron scattering studies help sharpen our 3D picture of a nucleon. Here we will give an update/status report on a Jefferson Lab experiment aiming extend, with good statistical and systematic precision, the measurements of the electric form form factor of the proton to four momentum transfers up to 12 GeV/c^2 using the JLab 11 GeV electron beam and a super big bite spectrometer in Hall A in conjunction with a highly segmented electromagnetic calorimeter. The experimental technique as well as the potential impact of such measurement on the field will be discussed.

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