Abstract Submitted
for the APR18 Meeting of
The American Physical Society

**Precision Measurement of the Proton Elastic Cross-Section at High** $Q^2$[1] THIR GAUTAM, Hampton University, BASHAR ALJAWRNEH, North Carolina AT State University, BARAK SCHMOOKLER, LONGWU OU, Massachusetts Institute of Technology, YANG WANG, College of William Mary — Elastic electromagnetic form factors characterize the distribution of electric charge and magnetization current inside the nucleon and thus reflect the internal structure determined by Quantum Chromodynamics. Existing data on the proton magnetic form factor at high $Q^2$ have large statistical and systematic uncertainties. The GMp experiment E12-07-108 was one of the first set of experiments to run in Hall A at Jefferson Lab after the 12 GeV upgrade with the goal to precisely measure the electron-proton elastic cross section in the $Q^2$ range of 7 to 17 $GeV^2$ with an accuracy of better than 2

[1]*This work is supported by National Science Foundation grant PHY-1508272 and Jefferson Science Associates

Thir Narayan Gautam
Hampton University

Date submitted: 03 Jan 2018 Electronic form version 1.4