Abstract Submitted
for the DNP16 Meeting of
The American Physical Society

Measurement of the Low Q^2 Elastic Form Factor Ratio $\mu G_E/G_M$ Using Electron Scattering Double Spin Asymmetries JESSICA CAMPBELL, Dalhousie University / Saint Mary's University, MOSHE FRIEDMAN, Racah Institute of Physics / Hebrew University of Jerusalem, JEFFERSON LAB HALL A COLLABORATION COLLABORATION — Using a polarized electron beam and a polarized proton target, an elastic scattering experiment was conducted at Jefferson Lab (JLab) in 2012 with the aim of studying the proton elastic form factor ratio $\mu G_E/G_M$ in the momentum transfer range of Q^2 = 0.01 - 0.08 GeV^2. This experiment will improve our understanding of the form factor ratio at very low Q^2 and can be used to constrain extractions the proton charge and magnetic radius. In addition, many models and calculations continue to suggest that non-Dipole Q^2dependent structures might be present in the individual form factors and should reflected in this ratio. The experiment made use of Jefferson Lab's 80% polarized electron beam incident on the University of Virginia's polarized proton target. With this setup, the experiment was able to access a lower Q^2 range than is inaccessible to recoil polarization measurements which require secondary scattering of the recoiling proton. The focus of this work is to report on the preliminary analysis and expected uncertainties.

Jessica Campbell
Dalhousie University / Saint Mary's University

Date submitted: 01 Jul 2016 Electronic form version 1.4