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Jefferson Lab Hall A Beamline Instrumentation and Calibration for GMP experiment THIR NARAYAN GAUTAM, Hampton University — The nucleon electromagnetic form factors characterize the distributions of electric charge and magnetization current inside the nucleon and thus reflect the internal structure determined by Quantum Chromodynamics. The GMp experiment is a first experiment run in Hall A at Jefferson Lab after the upgrade to double the beam energy with the goal to precisely measure electron-proton elastic cross section in the Q^2 range of 7 to 17 GeV^2 with an accuracy of better than 2%; several time better than existing data at the highest Q^2. In order to achieve this accuracy, a determination of the accumulated beam charge of better than 0.5% is required. The new 12 GeV beamline was commissioned during the spring of 2015, with the main instrumentation consisting of beam charge and position monitors. In this talk, the procedures and the results of the calibrations of these beamline components will be presented.

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