Abstract Submitted
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Polarized Electron Beams for the Jefferson Lab Nuclear Physics Program[1] JOSEPH GRAMES, Jefferson Laboratory — Almost eighty percent of the present physics program at Jefferson Lab requires polarized electron beams to probe nuclear structure. The accelerator can provide beam to three experimental halls simultaneously from the same 100 kV DC electron gun and GaAs photocathode. Multiple hall operation is a key design feature of the lab that maximizes the physics output. However, multiple hall operation also imposes restrictions on users. For example, only specific beam energies can transfer the full component of longitudinal polarization from the source, as high at 85%, to multiple halls simultaneously. This talk describes the details of polarized beam delivery to experimental halls and the factors that affect beam quality, particularly those factors relevant for conducting parity violation experiments. These details will be described in context of the progress of GaAs polarized electron sources. In addition, the state-of-the-art and future prospects for higher current and beam polarization will be discussed.

Joseph Grames
Jefferson Laboratory

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