

Abstract Submitted
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MOLLER: High Precision Electron Beam Control CARYN PALATCHI, Univ of Virginia — The MOLLER experiment at Jefferson Laboratory will measure the Moller (electron-electron scattering) parity-violating asymmetry, providing an unparalleled precision on the electroweak mixing angle. It will be part of a new generation of ultra high precision electroweak experiments. To achieve the parity quality beam necessary for the small systematic uncertainties required in MOLLER, it is critical to control helicity correlated false asymmetries in the polarized electron beam. Innovative techniques in the polarized electron source are required including using a newly installed RTP Pockels cell system in the laser optics of the source. This talk will describe the development of the this new RTP Pockels cell system, a critical component of the experiment. It will demonstrate precision control capabilities at the nano-meter level within the injector source which shows extreme promise for the future MOLLER Experiment.

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