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## Wien-filter spin rotator with integrated ion pump

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Nuclear physics experiments performed at the Continuous Electron Beam Accelerator Facility (CEBAF) at Jefferson Laboratory (JLab) require highly polarized electron beams, produced from strained super-lattice GaAs/GaAsP photocathodes. To prolong the photocathode operational lifetime, the photogun and adjoining beamline should be maintained at the lowest possible pressure. This presentation describes a Wien-filter spin manipulator with Penning cells incorporated along the length of the high voltage electrodes. For some spin settings, the Wien filter acts as an ion pump. Although the Wien filters at CEBAF are relatively far from the photocathode, a Wien-filter spin manipulator with distributed pumping could serve to improve photocathode operating lifetime.

Acknowledgement

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### Category

Polarimetry

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