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Degrader beamline design at the CEBAF injector for machine acceptance studies

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A degrader device is being built at the CEBAF injector to degrade the electron beam phase space for machine acceptance studies. The electron beam is degraded through multiple scattering in a thin target before further transport in the injector beamline for injection into CEBAF. The degraded electron beam will approximate phase space distributions expected from a bremsstrahlung-based polarized positron source as in the PEPPo method. The effort is in broader support of the Ce+BAF positron capability that is currently under study. Two options for the degrader device are considered, and simulation results are presented.

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Footnotes

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Yes

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