Abstract Submitted
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Halo creation and propagation in the University of Maryland Electron Ring[1] CHRISTOS PAPADOPOULOS, University of Maryland, College Park, G. BAI, B. BEAUDOIN, I. HABER, R.A. KISHEK, P.G. O'SHEA, M. REISER, D. STRATAKIS, M. WALTER, UNIVERSITY OF MARYLAND ELECTRON RING TEAM — The University of Maryland Electron Ring (UMER) is a scaled low-energy electron machine, designed to access the intense regime of beam operation in particle accelerators. One of the phenomena that can arise during the transport of intense beams is the creation of halos around the beam core. This can significantly deteriorate the quality of the beam and complicate the maintenance of the facility. In this study, we use the WARP particle-in-cell code to numerically investigate a number of causes of halo in intense beams and the propagation of the halo downstream. In particular, we focus on the UMER beam, where halos have been observed and compare the simulation results to the experimental data.

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Christos Papadopoulos
University of Maryland, College Park

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