

Abstract Submitted
for the APR16 Meeting of
The American Physical Society

Maximizing Number of Passes in Recirculating Energy Recovery

Linacs¹ S. ALEX BOGACZ, Jefferson Lab — The next generation of high energy recirculating linear accelerators (RLAs) will rely on the energy recovery (ER) process for their extreme high current operation. Here, we discuss optimum design of multi-pass linac optics for an RLA based on a large scale superconducting linac. Initial strategy used in the design of 60 GeV, 6 pass RLA for the LHeC, has been extended to 10 passes for the proposed CEBAF ER experiment. The presented optimization scheme addresses overall beam transport performance, as well as specific beam dynamics issues, such as, beam stability due to collective effects.

¹work supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics under contract DE-AC05-06OR23177

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Date submitted: 08 Jan 2016

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