ACCELERATOR SEMINAR

"LHeC Recirculator with Energy Recovery – Beam Optics Choices"

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High current, multi-ten-GeV operation of electron recirculator for the LHeC solely relies on the Energy Recovery (ER) process. The optics design for multi-pass superconducting linacs in the ER mode is presented. Synchronization between the arcs and linacs for chromatic beams requires very small values of momentum compaction. Furthermore, synchrotron radiation effects on emittance dilution (quantum excitations) are of paramount importance. To address both issues, here we propose a quasi isochronous arc optics design, which simultaneously ensures a small value of emittance dispersion, <H>, and therefore mitigates both transverse emittance growth and bunch length increase.

Thursday, October 14, 2010
3:30 p.m. – 4:30 p.m.
CEBAF Center, Room L102/104

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