

Design of slow extraction from low emittance electron booster rings

Tuesday, 13 February 2024 12:20 (20 minutes)

Modern low emittance lattices typically require a reduced cell length and high quadrupole gradients, thereby generating large natural chromaticities. Thanks to the low dispersion requirement the chromaticity correction requires strong sextupoles, which accentuate the role of the non-linear dynamics in the machine. We present the design considerations of a resonant slow extraction based on the radio frequency knock-out (RF-KO) scheme, where the underlying dynamics are not only governed by the well-known Kobayashi Hamiltonian.

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Session Classification: Managing Extraction Efficiency