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Summary of Jefferson Lab LDRD on FFA@CEBAF beam dynamics simulations

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As Thomas Jefferson National Accelerator Facility (Jefferson Lab) looks toward the future, we are considering expanding our energy reach by using Fixed-Field Alternating Gradient (FFA) technology. Significant efforts have been made to design a hybrid accelerator which combines conventional recirculating electron LINAC design with permanent magnet-based FFA technology to increase the number of beam recirculations, and thus the energy. In an effort to further this progress, Jefferson Lab awarded a Laboratory Directed Research and Development (LDRD) grant to focus not on the design, but on detailed simulations of the designs created by the larger collaboration. This document will summarize the work performed during this LDRD, and direct the reader to other proceedings which describe elements of the work in greater detail.

Footnotes

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