

Electron beam dose modification using transverse magnetic fields

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Abstract

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The TRIUMF facility, located in Vancouver, is Canada's national laboratory for particle and nuclear physics and has been well served for 40-some years by its cyclotron, which allows for the simultaneous extraction of protons down several beamlines at energies up to 520MeV. To complement its operation and production, recent funding has been obtained to build a high-power, electron LINAC using super-conducting radio-frequency technology. It is planned to put this eLINAC into an existing vault whose shielding, structure, and safety systems now need to be upgraded to meet the new demands. Calculations are underway to help guide the engineers and accelerator physicists on how to best construct this new facility.