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An approachable beam loss monitor configuration and operation tool for FRIB

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The folded Linear Accelerator (linac) at the Facility for Rare Isotope Beams (FRIB) presents many challenges to effectively utilizing beam loss monitors (BLMs) for machine protection. Dozens of ion chambers and neutron detectors are installed at various locations in the linac tunnel to monitor radiation from beam losses. Each device must be configured with thresholds to meet machine protection requirements for an array of beam destinations, ion species, beam energies, beam power, and response times. This presents an extremely large configuration space with numerous use-cases and beam modes to account for. We present a largely automated tool to effectively manage BLM thresholds that requires minimal input from operators.

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