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E8: Short-distance nuclear matrix elements for neutrinoless double beta decay

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Neutrinoless double beta decay is a long-sought after process which would provide evidence of lepton number violation in our universe. Computing the rate from first principles requires non-perturbative input in the form of a nuclear matrix element which must be computed on the lattice. This poster will discuss the contribution to this matrix element from short-distance, dimension-9 operators. I will present the methods used to perform the computation, and show some preliminary results in which we evaluate this matrix element on an ensemble of domain-wall fermions for the unphysical $\pi^- \rightarrow \pi^+ e^- e^-$ decay.

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