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## Electromagnetic finite-volume effects to leptonic decays through order $1/L^3$ in $\text{QED}_L$

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Analytical techniques to derive the finite-volume dependence of observables calculated in lattice simulations can be used to improve numerical determinations. With the need for (sub-)percent precision in lattice predictions, also isospin-breaking effects have to be considered. When including electromagnetism in the so-called  $\text{QED}_L$  prescription, having good control of the associated finite-volume effects is particularly important, as the scaling with the spatial extent  $L$  typically is inverse polynomial. In this talk, we will discuss the finite-size effects in the RBC/UKQCD calculation of radiative corrections to leptonic decays. Particular emphasis will be put on the order  $1/L^3$  contribution, where the non-locality of  $\text{QED}_L$  plays an important role.

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