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Finite volume corrections for form factors of two-nucleon systems

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Determining the internal structure of hadrons is a necessary step to advance our understanding of the dynamics of confined partons. Extracting form factors of resonances directly from lattice QCD requires a formal connection between the finite volume Euclidean correlation functions and the infinite volume Minkowski amplitudes. In this talk we describe a novel procedure to extract transitions that couple states with at most two nucleons by exploiting the finite volume of the lattice. Building on previous work pertaining to spinless systems, we describe how to achieve the description of the spin degrees-of-freedom given their non-trivial finite-volume interaction with an external local current of arbitrary Lorentz structure. We will present the main ingredients of our derivation, and an outlook for future calculations where we discuss a case study of the significance of the finite-volume corrections as a function of the binding energy of a deuteron-like state.

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