

Abstract Submitted  
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**Two-Body Transition Amplitudes: A Pathway to Resonant Form-Factors**<sup>1</sup> KEEGAN SHERMAN, RAÚL BRICEÑO, ANDREW JACKURA, Old Dominion University and Jefferson Lab, FELIPE ORTEGA-GAMA, William & Mary and Jefferson Lab — Understanding the structure of hadronic resonant states has proven difficult due to their short lifetimes as well as the non-perturbative nature of QCD. However, such information can be extracted from a class of scattering amplitudes that couple two-body states via a single external current. In this talk, I will present an exact analytic representation for the on-shell amplitudes in terms of generalized form-factors and known kinematic functions. From these amplitudes, I will then show how to define the elastic form-factors of resonant states. The finite-volume formalism presented in [Phys. Rev. D 100, 034511] allowed for the extraction of these amplitudes from lattice QCD. Combined with this formalism, this work provides a comprehensive foundation for calculating resonant form-factors using lattice techniques.

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