Abstract Submitted
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Towards a New Approach to Dual Resonance Model Phenomenology[1] ETHAN TORRES, Univ of Florida - Gainesville — We have taken steps toward finding a dual-resonance (DR) model appropriate for phenomenological fits that can be built from an DR operator formalism which is attractive for its projective group gauge symmetries and factorization properties. This is done by attempting to generalize an approach [Szczepaniak, Adam, and Pennington, M.R., Application of the Veneziano Model in Charmonium Dalitz Plot Analysis, arxiv:1403.5782] of isolating DR poles by making all but one of the residues of on infinite sum of modified beta functions vanish. This leaves a closed-form amplitude that has a finite set of adjustable parameters and with only one ad hoc modification necessary for maintaining Regge asymptotic behavior. We have generalized this approach to double and single Regge limits of the DR five-point function with a pending application to $p\gamma^* \to K^+K^-p$. Generalizations for $(N-3)$-tuple Regge limits for N-point amplitudes can be gleaned from this work but a more rigorous treatment has been considered. Preliminary results suggest that these amplitudes may take the form of an expectation value of an infinite sum of an alternating product of vertex operators and Gervais-Neveu propagators.

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