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Testing the Khuri-Treiman method with $\pi\pi$ scattering NATHAN SHERRILL, Indiana Univ - Bloomington — A common dispersive approach to modeling hadronic amplitudes is the so-called Khuri-Treiman (KT) method. This method involves approximating the amplitude as a linear combination of truncated partial wave series in all scattering channels simultaneously. A limitation of this approach is that—in part due to the inclusion of a finite number of partial waves—its descriptive power is intrinsically limited to low energies. Recently there has been renewed interest in applying this method to processes at energies where inelastic effects cannot be ignored. It is therefore unclear if studying these processes using KT is valid. Here, we investigate this issue by studying $\pi\pi$ scattering using the KT representation of the amplitude. Specifically, we use established parameterizations of $\pi\pi$ phase shifts from threshold to $\sqrt{s} \sim 1.4$ GeV as inputs to test the method at energies above the elastic approximation.

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