Scattering amplitudes for rationally extended PT symmetric complex potentials

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Scattering amplitudes for the rationally extended *PT* symmetric complex potentials In this paper, we consider the rational extensions of two different *PT* symmetric complex potentials namely the asymptotically vanishing Scarf II and asymptotically non-vanishing Rosen-Morse II [RM-II] potentials and obtain bound state eigenfunctions in terms of newly found exceptional X_m Jacobi polynomials and also some new type of orthogonal polynomials respectively. By considering the asymptotic behaviour of the exceptional polynomials, we obtain the reflection and transmission amplitudes for them and discuss the various novel properties of the corresponding amplitudes.