

Scattering Properties of One-dimensional PT-symmetric Models

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We study scattering properties of one-dimensional PT-symmetric tight-binding models, depending on the strength of coupling to continuum and on internal disorder. We show how the gain and loss can be included in the model thus allowing studying their influence on transport properties. Main attention is paid to the transmission and reflection coefficients in dependence on the key parameters, as well as to the distribution of poles of scattering matrices. A particular interest is in an emergence of the so-called “superradiance” occurring when the resonances are strongly overlapped.