Discrete spectrum in a critical coupling case of Jacobi matrices with spectral phase transitions by uniform asymptotic analysis

Pchelintseva I. M.

(University College London)

pchelintseva@yandex.ru

For a two-parameter family of Jacobi matrices exhibiting first-order spectral phase transitions, we prove discreteness of the spectrum in the positive real axis when the parameters are in one of the transition boundaries. To this end we develop a method for obtaining uniform asymptotics, with respect to the spectral parameter, of the generalized eigenvectors. This technique can be applied to a wide range of Jacobi matrices.

The talk is based on the joint works with Serguei Naboko and Luis O. Silva.