

1135-47-271

Milivoje Lukic* (milivoje.lukic@rice.edu). *Spectral edge behavior for eventually monotone Jacobi and Verblunsky coefficients.*

This talk is about Jacobi matrices with eventually increasing sequences of diagonal and off-diagonal Jacobi parameters. We describe the asymptotic behavior of the subordinate solution at the top of the essential spectrum, and the asymptotic behavior of the spectral density at the top of the essential spectrum.

In particular, allowing on both diagonal and off-diagonal Jacobi parameters perturbations of the free case of the form $-\sum_{j=1}^J c_j n^{-\tau_j} + o(n^{-\tau_1-1})$ with $0 < \tau_1 < \tau_2 < \dots < \tau_J$ and $c_1 > 0$, we find the asymptotic behavior of the log of spectral density to order $O(\log(2-x))$ as x approaches 2.

Apart from its intrinsic interest, the above results also allow a description of the asymptotics of the spectral density for orthogonal polynomials on the unit circle with real-valued Verblunsky coefficients of the same form. (Received August 17, 2017)