

İSTANBUL ANALYSIS SEMINARS

ASYMPTOTICS OF SPECTRAL DEVIATIONS FOR HILL OPERATORS

Plamen DJAKOV

Sabancı University
Faculty of Engineering and Natural Sciences

Abstract: The Hill operator $L = -d^2/dx^2 + v(x)$, $x \in [0, \pi]$, has close to n^2 one Dirichlet eigenvalue and two periodic (if n is even), or antiperiodic (if n is odd) eigenvalues λ_n^-, λ_n^+ (counted with multiplicity). We give asymptotic formulas for spectral gaps $\gamma_n = \lambda_n^+ - \lambda_n^-$ and deviations $\delta_n = \mu_n - \lambda_n^+$ in terms of the Fourier coefficients of v .

The talk is based on joint results with Boris Mityagin.

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