

Weyl sequences and the essential spectrum of some Jacobi operators

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The talk is devoted to finding Weyl sequences for some Jacobi operators and consequently, to study of their essential spectra. In particular, those problems are studied for some perturbations of the Jacobi operator J_0 in $l^2(N)$ with the k -th weight w_{0k} and k -th diagonal term q_{0k} given by

$$w_{0k} = k^\alpha + b_k, \quad q_{0k} = a_k,$$

where $\alpha \in (0; 1)$ and $\{a_k\}, \{b_k\}$ are periodic sequences.

Some ideas of [1] and [2] for the construction of Weyl sequences are used here.

References:

[1] *Janas J., Naboko S. and Stolz G.* Decay bounds on eigenfunctions and the singular spectrum of unbounded Jacobi matrices// *Int. Math. Res. Notices*, V. 2009, No 4. 2009. P. 736–764.

[2] *Last Y., Simon B.* The essential spectrum of Schrödinger, Jacobi, and CMV operators// *J. Anal. Math.*, V. 98. 2006. P. 183–220.

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