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Reviewer Name: Znojil, M.

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Address:
Theory Group
NPI ASCR
250 68 Řež u Prahy
CZECH REPUBLIC
znojil@ujf.cas.cz

Author: Jitomirskaya, Svetlana; Mavi, Rajinder

Title: Continuity of the measure of the spectrum for quasiperiodic Schrödinger operators with rough potentials.

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Review text:

One-dimensional quantum Hamiltonian operator $H = T + V$ on $\ell^2(\mathbb{Z})$ is assumed composed of a discrete (negative) Laplacean $T = -\triangle$ and of a real-valued quasiperiodic local potential $V(n) = f(\omega\, n+\theta)$ with 1-periodic $f(x)$ and integers $n = \ldots, -1, 0, 1, \ldots$. An amazingly extensive literature dating back to Aubry and Andre in 1980 is reviewed showing how exciting various subtleties of the underlying spectral problem are. What is assumed is the positivity of the Lyapunov exponent, with the purpose of "roughening" (i.e., of successfully relaxing the regularity) of $f(x)$ from its most common analyticity down to the $\gamma-$Hölder continuity with $\gamma > 1/2$. What is studied are the measures of spectra (as sets) and what is proved is that at irrational ωs, Diofantine or not, these measures are limits of measures of spectra of periodic approximants with rational ωs. In the absence of continuity of the Lyapunov exponents (weakened, in a way, to a uniform upper-semicontinuity) the proof is based on the ergodicity ideas in connection with the recurrent transfer-matrix generation of the wave-function components (one speaks about - iterated - cocycles) yielding the key property of uniformity (in phases and neighborhoods) of the convergence from above.