

This is a review submitted to Mathematical Reviews/MathSciNet.

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Author: Cannata, F.; Ioffe, M. V.; Nishnianidze, D. N.

Title: Equidistance of the complex two-dimensional anharmonic oscillator spectrum: the exact solution.

MR Number: MR2950286

Primary classification: 81Q12

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Review text:

An interesting coupled-anharmonic-oscillator extension of the coupled-harmonic-oscillator results of previous paper [16] where a class of special non-Hermitian 2D models solvable by Bogoliubov transformation has been considered at the “excluded” values of couplings at which the Bogoliubov transformation ceases to exist. In spite of the loss of separability and of the diagonalizability of the resulting pseudo-Hermitian model, its shape invariance and the equidistance of the spectrum is shown to imply the feasibility of the construction of the eigenfunctions as well as of the associated functions.