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Alberto Takase* (atakase@uci.edu). *On the spectra of separable 2D almost Mathieu operators.*

We consider separable 2D discrete Schrödinger operators generated by 1D almost Mathieu operators. For fixed Diophantine frequencies we prove that for sufficiently small couplings the spectrum must be an interval. This complements a result by J. Bourgain establishing that for fixed couplings the spectrum has gaps for some (positive measure) Diophantine frequencies. Our result generalizes to separable multidimensional discrete Schrödinger operators generated by 1D quasiperiodic operators whose potential is analytic and whose frequency is Diophantine. The proof is based on the study of the thickness of the spectrum of the almost Mathieu operator, and utilizes the Newhouse Gap Lemma on sums of Cantor sets. (Received August 14, 2021)