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On the finite linear independence of lattice Gabor systems

In the restricted setting of product phase space lattices, we give an alternate proof of P. Linnell's theorem on the finite linear independence of lattice Gabor systems in $L^2(\mathbb{R}^d)$. Our proof is based on a simple argument from the spectral theory of random Schrödinger operators; in the one-dimensional setting, we recover the full strength of Linnell's result for general lattices. The results described were obtained jointly with C. Demeter.