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Semiclassical limits of eigenfunctions of the Laplacian on $\mathbb{T}^n$

We will present a proof of the conjecture formulated by D. Jakobson in 1995, which states that on a n-dimensional flat torus $\mathbb{T}^n$, the Fourier series of squares of the eigenfunctions $|\phi_\lambda|^2$ of the Laplacian have uniform l^n bounds that do not depend on the eigenvalue λ. The proof is a generalization of the argument presented in papers [1,2] and requires a geometric lemma that bounds the number of codimension one simplices which satisfy a certain restriction on an n-dimensional sphere $S^n(\lambda)$ of radius $\sqrt{\lambda}$. We will present a sketch of the proof of the lemma.