1041-58-290   **Lior Silberman*** (`lior@math.ubc.ca`), UBC Dept of Math, 1984 Agricultural Road, Vancouver, BC V6T 1Z2, Canada. *Arithmetic Quantum Unique Ergodicity on Hyperbolic 3-Manifolds.*

Let $Y = SL_2(\mathbb{Z}[i])\backslash\mathbb{H}^{(3)}$ (more generally, a congruence hyperbolic 3-manifold). Let $\{\psi_n\}_{n=1}^{\infty} \subset L^2(Y)$ be a sequence of normalized Hecke-Maass forms, that is joint eigenfunctions of the Laplace operator and the Hecke operators which are of norm 1. We show that any weak-* limit of the sequence of probability measures $d\bar{\mu}_n(y) = |\psi_n(y)|^2 d\mathrm{Vol}(y)$ is of the form $\frac{c}{\mathrm{Vol}(y)} d\mathrm{Vol}(y)$ for some $0 \le c \le 1$. This generalizes the well-known result of Lindenstrauss for the case of hyperbolic surfaces. (Received August 12, 2008)

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