

1166-32-56

**Jayadev S Athreya\*** (jathreya@uw.edu), **Yitwah Cheung** and **Howard Masur**. *The Siegel-Veech transform is in  $L^2$ .*

Let  $\mathcal{H}$  denote a connected component of a stratum of translation surfaces. We show that the Siegel-Veech transform of a bounded compactly supported function on  $\mathbb{R}^2$  is in  $L^2(\mathcal{H}, \mu)$ , where  $\mu$  is Lebesgue measure on  $\mathcal{H}$ , and give applications to bounding error terms for counting problems for saddle connections. We also propose a new invariant associated to  $\mathrm{SL}(2, \mathbb{R})$ -invariant measures on strata satisfying certain integrability conditions. (Received February 08, 2021)