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Hieu Trung Do* (doh@math.oregonstate.edu). *New families of pseudo-Anosov homeomorphisms with vanishing Sah-Arnoux-Fathi invariant.*

Translation surfaces can be viewed as polygons with parallel and equal sides identified. A homeomorphism on a translation surface to itself is called pseudo-Anosov if its derivative is a constant 2×2 matrix with trace larger than two. We apply Veech's construction of pseudo-Anosov homeomorphisms (by Rauzy-Veech induction) to produce infinite families of pseudo-Anosov maps in the stratum $\mathcal{H}(2,2)$ (thus with particular singularity combinatorics) with vanishing Sah-Arnoux-Fathi invariant, as well as sporadic examples in other strata. (Received February 10, 2016)