

The Veech group of a finite translation surface of genus g is a discrete subgroup of $SL(2, \mathbb{R})$ which knows a lot about the geometry and dynamics of the surface. Its action on the homology of the surface allows an invariant splitting. One part has dimension $2g - 2$ and the action of the Veech group on it is called the Kontsevich-Zorich monodromy. It is a subgroup of the symplectic group $SP(2g - 2, \mathbb{R})$. In joint work with Bonnafoux, Kany, Kattler, Matheus, Niño, Sedano-Mendoza and Valdez we study this mysterious shadow of the Veech group in $SP(2g - 2, \mathbb{R})$ for certain families of translation surfaces which are all origamis. In particular we study for these examples the question whether these subgroups of $SP(2g - 2, \mathbb{R})$ are arithmetic or not.