

Abstract

We introduce and study *diamonds* of $\mathrm{GL}^+(2, \mathbb{R})$ -invariant subvarieties of Abelian and quadratic differentials, which allow us to recover information on an invariant subvariety by simultaneously considering two degenerations, and which provide a new tool for the classification of invariant subvarieties. We classify a surprisingly rich collection of diamonds where the two degenerations are contained in “trivial” invariant subvarieties. Our main results have been applied to classify large collections of invariant subvarieties; the statement of those results do not involve diamonds, but their proofs rely on them.