ABSTRACT:

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Veech groups, cutting sequences and penetration spectra

Veech surfaces are translation surfaces rich of affine symmetries. Their Veech group (i.e. the group of linear parts of affine automorphisms) is a key tool to study their dynamical properties using renormalization. We will present two results that illustrate this philosophy. The first is a characterization of the symbolic sequences, or cutting sequences, which code linear trajectories on some families of Veech surfaces (joint work with Davis and Pasquinelli). The second concerns the description of Lagrange spectra, that can be described dynamically as penetration spectra and more precisely the existence of Hall's ray for Veech surfaces (joint work with Artigiani and Marchese).