LAGRANGE SPECTRUM OF VEECH SURFACES

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Abstract: The Lagrange spectrum is a classical object in Diophantine approximation on the real line that has been generalised to many different settings. We study the Lagrange spectrum in the contest of Veech translation surfaces. These are particular translation surfaces with many symmetries, which can be thought as a dynamical equivalent of the torus in higher genera.

We show that for such surfaces, similarly to what happens in the classical case, the Lagrange spectrum contains an infinite interval, called Hall ray. In our construction we use coding of hyperbolic geodesics and we deduce a formula that allows to describe high values in the spectrum as a sum of two Cantor sets.

This is a joint work with L. Marchese and C. Ulcigrai.