

**Abstract:** The classical Lagrange spectrum (and the closely related Markoff spectrum), is a well studied subset of the reals which can be defined either in terms of Diophantine approximation or considering the asymptotic penetration of bounded geodesics on the modular surface. After recalling its definition(s) and properties, we will define and consider Lagrange spectra for interval exchanges and translation surfaces, which generalize respectively rotations of the circle and flat tori. Values of the classical Lagrange spectrum can be computed by a formula which involves continued fractions entries. We use a multi-dimensional continued fraction algorithm for interval exchanges (Rauzy-Veech induction) to characterize badlyapproximable interval exchanges and prove an analogous formula for the values of generalized Lagrange spectra. This is a joint work with Pascal Hubert and Luca Marchese.