

## **Abstract**

Since the work of Minkowski in the early twentieth century, the space of lattices has been a fundamental tool in the study of natural or rational numbers. Then, Margulis and his followers, in particular Dani, showed that methods from ergodic theory could be used very efficiently in that setting. More recently, Schmidt and Summerer started the "parametric geometry of numbers", which is a way to describe diagonal orbits in the space of lattices, using a simple combinatorial coding. This construction can be viewed as a generalization of continued fractions, and in particular, it can be used to show existence of real points with specific diophantine properties, and to answer problems that were previously understood only in dimension 1.