

Title: Double rotations and their ergodic properties

Abstract: Double rotations are the simplest subclass of interval translation mappings, a generalization of interval exchange transformations. A double rotation is of finite type if its attractor is an interval and of infinite type if it is a Cantor set. In the former case, the double rotation induces an interval exchange transformation on the attractor.

We introduce a new renormalization procedure on double rotations, which is reminiscent of the classical Rauzy induction. Using this renormalization, we prove that the set of parameters which induce infinite type double rotations has Hausdorff dimension strictly smaller than 3. We construct a natural invariant measure supported on these parameters and show that, with respect to this measure, almost all double rotations are uniquely ergodic.

The talk is based on a joint work with Charles Fougerson, Pascal Hubert and Sasha Skripchenko.