BERN-FRIBOURG GRADUATE SEMINAR

a seminar for Master and PhD students

Thursday 1st May, 2025: 17:15 - 18:00 Room B7, Exakte Wissenschaften, Bern

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Which groups act on the circle?

Abstract

The basic goal of rigidity theory is to classify the possible (nice) actions a certain (nice) group can have on a certain (nice) space. The (nice) can be replaced by many adjectives – for example the groups considered are typically lattices in high-rank Lie groups, have Kazhdan's Property (T), ..., the spaces considered are typically manifolds, trees, $CAT(0), \ldots$ and the actions are typically continuous, smooth, volume preserving, ...

In this talk we will focus on lattices acting on manifolds, starting with a brief sketch of known results. We will then try to understand which lattices can act continuously on the simplest manifold – the circle. We will prove a (by now classical) result of Dave Witte Morris, that SL(3,Z) has no interesting such examples.

We will assume no prerequisites beyond a typical undergraduate.