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An Introduction to New C^*-algebras from Tilings

Given a tiling that satisfies some standard conditions, we introduce an equivalence relation on R^d by saying that two points, x and y, are equivalent if the patch defined by y on the tiling matches the patch defined by x translated by $y - x$. We then consider the C^*-algebra associated to this equivalence relation and describe some of its ideals. If time permits we will show that this is a recursive subhomogeneous C^*-algebra.

In the case of a substitution tiling we use the inflation map to get an inductive limit of C^*-algebras, which is simple. We finish with a few K-theory computations for some examples.