

Characterising twisted groupoid C^* -algebras by Cartan semigroups

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Groupoid C^* -algebras (and more generally, twisted groupoid C^* -algebras) have become important in the classification program for C^* -algebras, as well as providing a tractable subclass of C^* -algebras that appear naturally in a variety of contexts. We know from Kumjian-Renault theory that a (reduced) twisted groupoid C^* -algebra for a twist over G (an effective étale Hausdorff groupoid) can be characterised by algebraic data, namely the normaliser semigroup, the subalgebra it generates, and a conditional expectation, and that the algebraic data can be used to reconstruct the groupoid twist. In this talk, I will define Cartan semigroups, a generalisation of the normaliser semigroup. I will also describe some results on how we can use Cartan semigroups to characterise twisted groupoid C^* -algebras even when the underlying groupoid is not effective or the norm is not the reduced norm.

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