

## Effective groupoids

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The connection between twisted groupoid  $C^*$ -algebras and Cartan pairs has become a cornerstone of  $C^*$ -algebraic theory. Given a  $C^*$ -algebra  $A$  and a commutative subalgebra  $B$ , Renault showed that the pair  $(A, B)$  is Cartan if and only if there is a twist over an effective groupoid  $G$  such that  $A$  can be realised by a reduced twisted groupoid  $C^*$ -algebra over  $G$ . In my talk, I will present criteria that are equivalent to a locally compact Hausdorff groupoid being effective, some of these conditions are inspired by an algebraic analogue of Cartan pairs in twisted Steinberg algebras.

This is joint work with Becky Armstrong, Jonathan Brown, Lisa Clark, Kristin Courtney, Kathryn McCormick, and Jacqui Ramagge.