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*Sums of small numbers of commutators*

For many  $C^*$ -algebras  $\mathcal{A}$ , techniques have been developed to show that all elements which have trace zero with respect to all tracial states can be written as a sum of finitely many commutators, and that the number of commutators required depends only upon the algebra, and not upon the individual elements. In this paper, we show that if the same holds for  $q\mathcal{A}q$  whenever  $q$  is a “sufficiently small” projection in  $\mathcal{A}$ , then every element that is a sum of finitely many commutators in  $\mathcal{A}$  is in fact a sum of two. We use these results to show that many  $C^*$ -algebras are linearly spanned by their projections.