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Rufus Willett* (rufus.willett@vanderbilt.edu), 1326 Stevenson Center, Vanderbilt University, Nashville, TN. *Rigidity of Roe algebras.*

Roe algebras associated to a metric space X are noncommutative C^* -algebras that attempt to capture the large-scale geometry of X . If X is a discrete group G equipped with a word metric, then the (uniform) Roe algebra of X is the crossed product associated to the action of G on its Stone-Cech compactification. Roe algebras are important in higher index theory on open manifolds, and its applications to topology and geometry.

Motivated by these applications, we show that in a large class of situations the Roe algebra completely determines X , i.e. if X and Y are spaces having isomorphic Roe algebras, then they have the same large scale geometry - in the group case, this means that the associated groups are quasi-isometric.

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