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**Cristina Ivan\*** ([antonescu@math.uni-hannover.de](mailto:antonescu@math.uni-hannover.de)), Department of Analysis, University of Hannover, Welfengarten 1, 30167 Hannover, Germany. *Sums of two-dimensional spectral triples.*

Connes introduced a spectral triple for a set consisting of just two points. Inspired by the theory of fractal strings as developed by Lapidus and Pomerance, Connes then considered the direct sum of these modules over a countable family of pairs of points from the middle third Cantor set in the unit interval, and their Dirac operators, and obtain a spectral triple for the algebra of continuous complex functions on the Cantor set. Connes showed how the metric, the Hausdorff measure and dimension are encoded by this spectral triple and its associated Dixmier trace. Together with Erik Christensen we have investigated countable sums of two-dimensional modules for the algebra of continuous complex functions on a general compact metric space. We give two constructions. The first construction recovers exactly the metric but says nothing about the dimension of the space. The second construction reflects the Minkowski dimension of the space, but the metric induced is only equivalent to the original one. We made also an explicit computation of the second module for the unit interval in  $\mathbb{R}$ . These results make another step in our ongoing search for possible spectral triples associated to fractals. Our work is motivated by the program of Lapidus on noncommutative fractal geometry (Received March 01, 2006)