

1154-46-1106

Therese Landry* (tland004@ucr.edu), **Michel Lapidus** and **Frederic Latremoliere**.

Convergence of Spectral Triples on the Sierpinski Gasket.

One of the fundamental tools of noncommutative geometry is Connes' spectral triple. Michel Lapidus, Erik Christensen, and Cristina Ivan have developed a spectral triple for the Sierpinski gasket fractal that recovers the Hausdorff dimension, the geodesic metric, and the \log_2 3-dimensional Hausdorff measure. The Gromov-Hausdorff distance is an important tool of Riemannian geometry, and building on the earlier work of Marc Rieffel, Frederic Latremoliere introduced a generalization of the Gromov-Hausdorff distance to the quantum compact metric space. An extension of this new technique in noncommutative geometry- the Gromov-Hausdorff propinquity- to the setting of spectral triples will be used to show how the Lapidus, Christensen, and Ivan spectral triple on the Sierpinski gasket can be written as a limit of spectral triples on its n th level approximations. This talk will develop ideas underlying joint work in progress with Michel Lapidus and Frederic Latremoliere. (Received September 14, 2019)