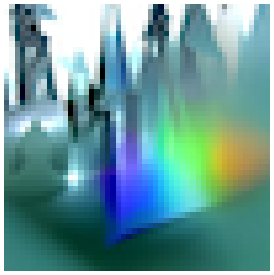

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The Gromov-Hausdorff distance in noncommutative geometry: convergence of quantum compact metric spaces and their modules

Wednesday 28 September 2022 16:30 (1 hour)

Connes' Spectral triples have emerged as the preferred tool to encode geometric information over possibly noncommutative C*-algebras. We present, in two lectures, a distance on the space of metric spectral triples, which then enables us to formally discuss ideas such as approximations or perturbations of spectral triples, and opens the possibility to study the geometry of spaces of spectral triples.

The foundation for our distance between spectral triples, called the spectral propinquity, is the Gromov-Hausdorff distance between compact metric spaces, for which we constructed an analogue on the class of quantum compact metric spaces, called the Gromov-Hausdorff propinquity. The propinquity can then be extended to certain modules over compact quantum metric spaces. This talk will present the constructions, and some examples of convergences, of the propinquity on compact quantum metric spaces and their modules.

Presenter: LATREMOLIERE, Frederic

Session Classification: 28-afternoon