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Ricci curvature in noncommutative geometry

Spectral formulation of a geometric quantity provides the right passage to define that quantity for noncommutative spaces. In this talk, we shall show how the Ricci curvature of an oriented closed Riemannian manifold can be realized as a spectral functional of Laplacians on the manifold. Using this formulation we define and compute the Ricci functional and its density for curved noncommutative tori. The talk is based on recent work "*The Ricci Curvature in Noncommutative Geometry, arXiv:1612.06688 [math.QA]*" in collaboration with M. Khalkhali and R. Floricel.