Geometric Non-Commutative Geometry

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In a recent paper, the authors proved that no spin foliation on a compact enlargeable manifold with Hausdorff homotopy graph admits a metric of positive scalar curvature on its leaves. This result extends groundbreaking results of Lichnerowicz, Gromov and Lawson, and Connes on the non-existence of metrics of positive scalar curvature.
In this paper we review in more detail the material needed for the proof of our theorem and we extend our non-existence results to non-compact manifolds of bounded geometry.
We also give a first obstruction result for the existence of metrics with (not necessarily uniform) leafwise PSC in terms of the A-hat class in Haefliger cohomology.