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„Obstructions to positive scalar curvature not beyond the Rosenberg index”

Abstract:

The Rosenberg index is a strong obstruction for a closed spin manifold to admit a positive scalar curvature metric. It is a complete obstruction in a stable sense (Rosenberg-Stolz theorem), but not really complete (Schick's counterexample). This leads us to explore a new PSC obstruction beyond the Rosenberg index. On the other hand, it has been expected that the Rosenberg index is strongest among the obstructions coming from Dirac operators (Schick's meta-conjecture). In this talk, I show that two Dirac type PSC obstructions, the codimension 2 obstruction of Hanke-Pape-Schick and the infinite KO-width of Gromov and Zeidler, are dominated by the Rosenberg index.