

The Stability of Llarull's Theorem in three dimensions

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Curvature is fundamental in the world of geometry. If you know the sectional curvature of a metric, then you have detailed control over its local and global behaviour. If you know there is a lower bound on the Ricci curvature of your metric, then you know a great deal of information about the types of functions which live there. Then, finally, there is scalar curvature. What can it tell us? In this seminar we will explore one thing a scalar curvature lower bound can tell us, Llarull's theorem, and see how it influences the geometry of an interesting class of metrics on the three sphere.