

Scalar curvature: rigidity and nonrigidity results

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In this talk we will survey some recent rigidity and nonrigidity theorems for manifolds with lower bounded scalar curvature. These results are reminiscent of the celebrated Positive Mass Theorem of General Relativity. We will describe the counterexamples to Min-Oo's Conjecture for the hemisphere, and discuss some connections with properties of minimal surfaces and Ricci flow.