ON THE CRITICAL METRICS OF THE TOTAL SCALAR CURVATURE FUNCTIONAL

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ABSTRACT

In this talk, we deal with the critical metrics of the total scalar curvature funcional on compact manifolds with constant scalar curvature and unit volume, for simplicity, CPE metrics. It has been conjectured that every CPE metric must be Einstein. We prove that the Conjecture is true for CPE metrics under a suitable integral condition and we also prove that it suffices the metric to be conformal to an Einstein metric.