

1040-53-2

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Riemannian manifolds of positive curvature.

We will discuss the geometric problem of classification of compact Riemannian manifolds of positive sectional curvature and related positivity conditions. In particular, we will describe our recent classification of pointwise $1/4$ -pinched manifolds. The work is joint with Simon Brendle and employs the Ricci flow to study a natural curvature condition which is weaker than $1/4$ -pinching and which arises naturally from the theory of minimal surfaces. (Received May 14, 2007)