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## Stability, Finiteness and Dimension 4

I will discuss the history and proof of the following result (joint work in progress with Curtis Pro).

**Theorem 1.** *For any  $k \in \mathbb{R}$ ,  $v > 0$ , and  $D > 0$  there are only finitely many diffeomorphism types of Riemannian 4-manifolds with sectional curvature  $\geq k$ , volume  $\geq v$ , and diameter  $\leq D$ .*