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Curtis Pro* (cpro@csustan.edu) and **Fred Wilhelm**. *Extending a diffeomorphism finiteness theorem to dimension 4.*

In the early 90s, Grove, Petersen, and Wu, and independently Perelman, showed in dimensions different than 4, the conclusion of Cheeger's Finiteness Theorem still holds without the assumption of an upper curvature bound. Namely, given numbers $k \in \mathbb{R}, v, D > 0$, if $n \neq 4$, there are at most finitely many differentiable structures on the class of n -manifolds M that support metrics with $\sec M \geq k$, $\text{vol } M \geq v$, and $\text{diam } M \leq D$. In this talk, I'll present joint work with Fred Wilhelm that shows, with a new approach, the same is also true in dimension 4. (Received January 23, 2018)