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Mathematics > Differential Geometry

Four-orbifolds with positive isotropic curvature

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In this note we prove the following result: Let $\mathcal{O}$ be a compact, connected Riemannian 4-orbifold with singular set of codimension at least 2 and with positive isotropic curvature. Then $\mathcal{O}$ is diffeomorphic to an orbifold connected sum of a finite number of spherical 4-orbifolds with singular set of codimension at least 2. We also have a noncompact version. This extends the previous works of Hamilton, Chen-Zhu, Chen-Tang-Zhu and the author to a more general situation. The proof uses Ricci flow with surgery on orbifolds, and is partially inspired by recent work of Kleiner and Lott.

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