

Sufficiently collapsed Alexandrov 3-spaces are geometric

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Abstract:

In Riemannian geometry, collapse imposes strong geometric and topological restrictions on the spaces on which it occurs. In the case of Alexandrov spaces, which generalize Riemannian manifolds with a lower sectional curvature bound, collapse is fairly well understood in dimension three. In this talk I will discuss the topology of sufficiently collapsed Alexandrov 3-spaces: when the space is irreducible, it is modeled on one of the eight three-dimensional Thurston geometries, excluding the hyperbolic one. This extends a result of Shioya and Yamaguchi, originally formulated for Riemannian manifolds, to the Alexandrov setting. This is joint work with Luis Guijarro and Jesús Núñez-Zimbrón.

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