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Title: CAT(0)-spaces quasi-isometric to the Euclidean space.

Abstract: Is any (locally compact, geodesically complete) CAT(0)-space X which is quasi-isometric to $\mathbb{E}^n$ necessarily homeomorphic to $\mathbb{E}^n$? If X admits a discrete, cocompact group of isometries, this essentially follows from well-known work of Adams and Ballmann. In general, the question is challenging. The answer is still positive when X is $(1 + \epsilon, C)$ quasi-isometric to $\mathbb{E}^n$, for sufficiently small ϵ (as a result of some theorems of Nagano); we will then discuss the (possibly) optimal quasi-isometry constants, and some counter-examples. Quite surprisingly, this investigation will force us to delve into the realm of homology manifolds. This is a joint work with Nicola Cavallucci (University of Fribourg, Switzerland)