



Square complexes and simplicial nonpositive curvature

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We prove that each nonpositively curved square VH-complex can be turned functorially into a locally 6-large simplicial complex of the same homotopy type. It follows that any group acting geometrically on a CAT(0) square VH-complex is systolic. In particular the product of two finitely generated free groups is systolic, which answers a question of Daniel Wise. On the other hand, we exhibit an example of a compact non-VH nonpositively curved square complex, whose fundamental group is neither systolic, nor even virtually systolic.

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