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When thin-framed triangles are thin

The Teichmüller space of a genus g surface, endowed with the Teichmüller metric, has several features suggestive of nonpositive curvature, yet none of the usual curvature criteria hold—it is neither CAT(0) nor Gromov hyperbolic. We introduce the notion for geodesic spaces that “thin-framed triangles are thin” in order to study the Teichmüller metric, obtaining results about approximability of random walks by geodesics.

In fact, the “thin-framed triangles are thin” condition is a generalization of CAT(0) that is interesting in its own right; we will explore some properties and applications.