

**Stability of the injectivity radius under quasi-isometries
and applications to isoperimetric inequalities**

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Kanai proved the stability under quasi-isometries of numerous global properties (including isoperimetric inequalities) between Riemannian manifolds of bounded geometry. Even though quasi-isometries highly distort local properties, recently it was shown that the injectivity radius is preserved (in some appropriate sense) under these maps between zero genus Riemann surfaces. In the present work, results along these lines are obtained even for infinite genus. As a consequence, the stability of the isoperimetric inequality in this context (without the hypothesis of bounded geometry) is also obtained.