

1038-53-153

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Ian Biringer. *The Three Gap Theorem in Riemannian Geometry.*

The classical three gap theorem asserts that for each natural number n and real number x , there are at most three distinct distances between consecutive elements in the subset of $[0,1)$ consisting of the reductions modulo 1 of the first n multiples of x . I'll discuss results of a similar nature pertaining to isometries of Riemannian manifolds and the distribution of points along their geodesics. (Received February 06, 2008)