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Title: The asymptotic behavior of geodesic circles in any 2-torus: a sub-mixing property

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We study the behavior of the level sets of Busemann functions in the universal covering plane of a 2-torus in detail. We prove that in any 2-torus T^2 , for any point p and for any $\varepsilon > 0$, there exists a number $R > 0$ such that the geodesic circles with center p and radii t are ε -dense in T^2 , for all $t > R$.

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