

Sessão: Algebraic and Geometric Topology

On the topological complexity of manifolds with abelian fundamental group

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The topological complexity (TC) is a homotopy invariant which was introduced by M. Farber in order to give a topological measure of the complexity of the motion planning problem. We will give sufficient conditions for the topological complexity of a closed manifold M with abelian fundamental group to be nonmaximal, that is to satisfy $TC(M) < 2 \dim(M)$. This generalizes for manifolds some results of Costa and Farber on the topological complexity of spaces with small fundamental group. We will also see through examples that our conditions are sharp. This is a joint work with Daniel Cohen.