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Fundamental Groups of Solenoid Complements

Abstract: A solenoid is a compact connected topological group that is an inverse limit of circles. When a solenoid is embedded in 3-space, its complement is an open 3-manifold. We discuss the fundamental groups of such manifolds, and show that the complements of different solenoids (arising from different inverse limits) have different fundamental groups. Also, embeddings of the same solenoid can give different groups; in particular, the nicest embeddings are unknotted at each level, and give an Abelian fundamental group, while other embeddings have non-Abelian groups.