

First Joint Meeting Brazil Italy of Mathematics  
Special Session: Geometric Topology and Dynamics

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**Title:** Reidemeister torsion, hyperbolic three-manifolds, and character varieties

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**Abstract:** In this talk I plan to overview recent results on the behavior of Reidemeister torsions from two viewpoints: as topological invariants of closed hyperbolic three-manifolds, and also as functions on the variety of representations of cusped manifolds in  $SL_2(\mathbb{C})$ . In addition, I consider torsions obtained after composing with a finite dimensional representation of  $SL_2(\mathbb{C})$ .