

TWISTED L^2 -TORSION ON THE CHARACTER VARIETY

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Abstract: We define a twisted L^2 -torsion on the character variety of a 3-manifold M and study some of its properties. In the case where M is hyperbolic of finite volume, we prove that the L^2 -torsion is a real-analytic function in a neighbourhood of any lift of the holonomy representation.

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Key words: hyperbolic 3-manifold, L^2 -torsion, character variety.