

Moduli spaces of hyperbolic 3-manifolds and dynamics on
character varieties

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Abstract

The space $AH(M)$ of marked hyperbolic 3-manifold homotopy equivalent to a compact 3-manifold with boundary M sits inside the $PSL_2(C)$ -character variety $X(M)$. We study the dynamics of the action of $Out(\pi_1(M))$ on both $AH(M)$ and $X(M)$. The nature of the dynamics reflects the topology of M . The quotient $AI(M)=AH(M)/Out(\pi_1(M))$ may naturally be thought of as the moduli space of unmarked hyperbolic 3-manifolds homotopy equivalent to M and its topology reflects the dynamics of the action.