Dynamics of the modular group action on $SL(2,\mathbb{C})$ characters of the one-holed torus

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Abstract. The $SL(2,\mathbb{C})$ character variety $\mathcal{X}$ of the one-holed torus T can be identified with $\mathbb{C}^3$. The modular group (as the mapping class group of T) acts naturally on the variety as polynomial automorphisms of $\mathbb{C}^3$. We study the dynamics of this action, in particular,

(1) we describe the largest subset of $\mathcal{X}$ on which the action is properly continuous;

(2) for $\rho \in \mathcal{X}$, we define a closed subset $\varepsilon(\rho)$ of PL, the projective lamination space of T, called the set of end invariants of ρ and show that in many cases, $\varepsilon(\rho)$ is a Cantor set if it contains at least 3 elements and is not all of PL.