Title

D. Zack Garza

Saturday 26$^{\text{th}}$ September, 2020

Contents

1 | Saturday, September 26

Remark 1.
There is a natural action of $\mathrm{MCG}(\Sigma)$ on $H_1(\Sigma;\mathbb{Z})$, i.e. a *homoloy representation* of $\mathrm{MCG}(\Sigma)$:

$$\rho : \mathrm{MCG}(\Sigma) \to \mathrm{Aut}_{\mathrm{Grp}}(H^1(\Sigma;\mathbb{Z}))$$
$$f \mapsto f_*.$$

Theorem 1.1 ***(Mapping Class Group of the Torus).***
There is a group isomorphism

$$\sigma : \mathrm{MCG}(\Sigma_2) \to \mathrm{SL}(2,\mathbb{Z})$$

which is given by sending any self-homeomorphism f