



# A Lower Bound for the Number of Group Actions on a Compact Riemann Surface

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We prove that the number of distinct group actions on compact Riemann surfaces of a fixed genus  $\sigma \geq 2$  is at least quadratic in  $\sigma$ . We do this through the introduction of a coarse signature space, the space  $\mathcal{K}_\sigma$  of skeletal signatures of group actions on compact Riemann surfaces of genus  $\sigma$ . We discuss the basic properties of  $\mathcal{K}_\sigma$  and present a full conjectural description.

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MSC classes: 57M60, 30F20, 14H37

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