REPRESENTATIONS OF SURFACE GROUPS, ENTROPY AND ZETA FUNCTIONS

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Let Γ be the fundamental group of a compact orientable surface S with genus at least 2. It is well known that a hyperbolic metric on S is determined by a representations of Γ into $\mathrm{PSL}(2,\mathbb{R})$. Furthermore, the entropy of the associated geodesic flow and the corresponding zeta function may be characterised in terms this representation. We will discuss analogues of this for representations of Γ into $\mathrm{PSL}(d,\mathbb{R})$, for $d \geq 3$. This is joint work with Mark Pollicott.