

Seminarium geometrów

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Rational approximation of surface group representations

Abstract: Let Σ_g denote a closed, orientable surface of genus $g > 1$. Kisao Takeuchi showed, that the set of faithful, discrete representations of $\pi_1(\Sigma_g)$ in $SL(2, \mathbb{R})$ has a dense subset consisting of representations in $SL(2, \mathbb{Q})$. His approach seems hard to extend to the case of representations in $SL(3, \mathbb{R})$. I will show a different proof using Teichmüller theory, and then - in the case of $SL(3, \mathbb{R})$ - that there is an open subset where rational representations are dense.