

Abstract

We prove that every Hitchin representation $\pi_1(\Sigma_g) \rightarrow \mathrm{SL}_n(\mathbb{R})$ can be rationally approximated. For Teichmüller space ($n=2$) an approximation can be realized by lifts of Fenchel-Nielsen twists, hence with prescribed Witt class. Computer analysis shows approximation by Goldman twists is possible in an open subset of the Hitchin component for $n = 3, g = 2$.