

GEOMETRIC AND ASYMPTOTIC GROUP THEORY
WITH APPLICATIONS
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Fixed subgroups are compressed in surface groups

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Abstract:

For a compact surface Σ (orientable or not, and with boundary or not) we show that the fixed subgroup, $\text{Fix}(B)$, of any family B of endomorphisms of $\pi_1(\Sigma)$ is compressed in Σ i.e., $\text{rank}(\text{Fix}(B)) \leq \text{rank}(H)$ for any H such that $\text{Fix}(B) \leq H \leq \pi_1(\Sigma)$. On the way, we give a partial positive solution to the inertia conjecture, both for free and for surface groups. We also investigate direct products, G , of finitely many free and surface groups, and give a characterization of when G satisfies the condition $\text{rank}(\text{Fix}(\varphi)) \leq \text{rank}(G)$ for every φ in $\text{Aut}(G)$. This is joint work with Q. Zhang and J. Wu. Enric.