

Geometry, Topology and Dynamics Seminar

Transitivity degrees of countable groups.

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Abstract: We introduce the transitivity degree of a countable group G , denoted $\text{td}(G)$, as the sup over all k such that G admits a faithful, k -transitive action on an set with at least k elements. We show that for many classes of infinite groups (e.g. hyperbolic groups, mapping class groups, 3-manifold groups, RAAGS, or any infinite subgroups of one of these), $\text{td}(G) \in \{1, \infty\}$. In particular, we show that if G is acylindrically hyperbolic and G has no finite normal subgroups, G admits a faithful action which is highly transitive, that is k -transitive for all k . We will also mention some applications of this result to the universal theory of acylindrically hyperbolic groups.

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| Monday, September 22 at 3:00 PM in SEO 636 |
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