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Anthony Weaver* (anthony.weaver@bcc.cuny.edu). *A coarse classification of elementary abelian p -group actions.*

Topological equivalence is the natural equivalence relation for groups acting on surfaces. However, the complexity of the topological classification problem grows rapidly with the group order. We construct a coarser classification which respects topological equivalence, but yields just finitely many types. Coarsely equivalent actions can occur in (infinitely many) distinct genera.

Here we consider actions of Z_p^k , the elementary abelian p -group of rank $k > 1$, on compact surfaces of genus $g > 1$. For simplicity, we take $p = 2$, and assume the action has quotient genus 0 (neither assumption is essential). The coarse topological types are given by certain additive partitions of $R \geq 3$, the number of branch points; the type is determined not by the partition itself, but by the numbers of odd and even parts of the partition. We give necessary and sufficient conditions for a partition type to determine a coarse Z_2^k action; this yields a count, depending only on the rank k , of the number of coarse classes. Examination of coarse classes with fixed R organizes and simplifies the classification of (ordinary) topological equivalence classes of Z_2^k actions.

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