

Extendability of group actions on surfaces

Abstract Suppose the finite group G acts faithfully on some closed surface S . Under what conditions does this action extend to a faithful action of some larger group on the same surface? And how can the action be defined so that G is the full automorphism group of S ? In this talk I will describe some joint work with Emilio Bujalance and Javier Cirre on the above questions, over the last two decades. The work began with the case of Riemann surfaces (in 1995), first for cyclic G and later for arbitrary G , and more recently has concentrated on Klein surfaces, both unbordered (and non-orientable) and bordered (and orientable or non-orientable). Of critical importance are the classifications of finitely-maximal Fuchsian groups (by David Singerman (1972)) and NEC-groups (by Emilio Bujalance (1982) and José Luis Estévez and Milagros Izquierdo (2006)).