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Actions of some discrete groups in non-commutative geometry

## Abstract

It is well known that group action changes the homological, differential, and topological properties of the space. The aim of this talk is to discuss the action of some finite discrete groups on some non-commutative differential and algebraic spaces. We shall first discuss and compare the (co)homological properties of non-commutative and quantum torus then observe how the quotient spaces resulting from the actions of discrete subgroups of  $SL(2,\mathbb{Z})$  behave. We shall discuss the flip actions on the non-commutative sphere from homological perspective.