

## Abstract

Let  $V$  be a vertex operator superalgebra and  $G$  a finite automorphism group of  $V$  containing the canonical automorphism such that  $V^G$  is regular. We classify the irreducible  $V^G$ -modules appearing in twisted  $V$ -modules and prove that these are all the irreducible  $V^G$ -modules. Moreover, the quantum dimensions of irreducible  $V^G$ -modules are determined, a global dimension formula for  $V$  in terms of twisted modules is obtained and a super quantum Galois theory is established. In addition, the  $S$ -matrix of  $V^G$  is computed. This is a joint work with Chongying Dong and Meiling Yang.