Modular extensions of Rep(G,z) and super orbifold theory

Chongying Dong

University of California Santa Cruz

Abstract:

For any finite group G, its module category Rep(G) is a symmetric braided fusion category. The modular extensions of Rep(G) have been studied extensively by Muger, Drinfeld-Gelaki-Nikshych-Ostrik, Lan-Kong-Wen and others. If z is an order 2 central element, G-module category Rep(G,z) with a new braiding determined by z is also a symmetric braided fusion category, but the modular extensions of Rep(G,z) have been only known for several examples.

This talk will report our recent progress in understanding the modular extensions of Rep(G,z) by using the super orbifold theory. This is a joint work with Richard Ng, Li Ren and Yilong Wang.