

1138-18-8

Cain Edie-Michell, Corey Jones and Julia Plavnik* (julia@math.tamu.edu). *Gauging by Z_2 permutation actions of Deligne products*. Preliminary report.

The classification of modular categories is important for applications to physics; for example, it gives a classification of certain topological phases of matter. At the moment, such a classification seems out of reach. Therefore, finding new examples of modular categories is important. Given a unitary modular category with a symmetry, we can construct a new unitary modular category via the gauging procedure. One interesting example is given by the Deligne product of two copies of a modular tensor category with the Z_2 action induced by swapping the factors. During this talk, we will explain how to compute the fusion rules for this case. Moreover, we will show some new modular categories that arise as a gauging by the permutation action of known examples in low rank. (Received November 11, 2017)