

Towards Property F for metaplectic modular categories

Paul Gustafson
Texas A&M University

The Property F conjecture

Conjecture (Rowell)

Let \mathcal{C} be a braided fusion category and let X be a simple object in \mathcal{C} . The braid group representations \mathcal{B}_n on $\text{End}(X^{\otimes n})$ have finite image for all $n > 0$ if and only if X is weakly integral (i.e. $\text{FPdim}(X)^2 \in \mathbf{Z}$).

Gauging

Metaplectic categories

A metaplectic modular category is a unitary modular category with the same fusion rules as $SO(N)_2$ for some odd $N > 1$.

Example: $SO(3)_2$

Strategies

- Relate R -matrices to $SO(N)_2$
- Modify the quantum group construction
- Relate R -matrices to \mathbf{Z}_N

Compare R -matrices with $SO(N)_2$

Modify the quantum group construction

Relate R -matrices to \mathbf{Z}_N

Thanks

Thanks for listening!