
Hopf25

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Parallel sessions, Forum F

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16h30-16h55

Étale algebras in 4D Dijkgraaf-Witten models

4D Dijkgraaf-Witten models are gauge theories for finite symmetry group G with anomaly given by a bosonic or fermionic 4-cocycle. Topological defects in a 4D Dijkgraaf-Witten model form a braided fusion 2-category, mathematically described by the Drinfeld center of a strongly fusion 2-category. In my talk, I will present recent progress in the classification of connected and Lagrangian étale algebras in 4D Dijkgraaf-Witten models. I will also comment on their relations with anyon condensations in 4D and application to the classification of fusion 2-categories. Based on the arXiv preprint <https://arxiv.org/abs/2411.13367>, this work offers new insights into the interplay between group cohomology, étale algebras, and higher-categorical structures, with implications for topological quantum field theory and quantum symmetry.