

talk 8: Dijkgraaf-Witten TQFT with defects

Tuesday 1 April 2025 11:20 (50 minutes)

We give a gauge theoretical construction of 3d (untwisted) Dijkgraaf-Witten TQFT with defects of all codimensions à la Freed-Quinn.

This defines a symmetric monoidal functor from a category of stratified surfaces and stratified 3d cobordisms into the category of finite-dimensional vector spaces. It is formulated in terms of graded quivers that describe the stratifications, spans of groupoids and certain groupoid representations. It does not require choices of triangulations, allows an easy computation of examples and can be applied to describe defects in Kitaev's quantum double model.

This is joint work with João Faria Martins, arXiv: 2410.18049

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