

# Item: Dijkgraaf Witten Theory

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I had better start writing. I don't understand why they give a special name for the character theory of finite groups. For me the problem has been there is nothing really I can test. There are lots of really promising papers all of which I kind of parse, but non of them I can compute.

There is action. Let  $A$  be a 1-form and  $B$  is a  $d - 2$ -form on the manifold  $M$

$$S[A, B] = \int_{M_d} \frac{N}{2\pi} B \wedge dA$$

Then the path integral is when you do this integral many times over the space of all possible connections

$$Z = \int DA DB e^{i S[A, B]} = \int DA DB e^{i \int_{M_d} \frac{N}{2\pi} B \wedge dA}$$

that is really excellent!

## References

(1) Pavel Putrov, Juven Wang, Shing-Tung Yau. **Braiding Statistics and Link Invariants of Bosonic/Fermionic Topological Quantum Matter in 2+1 and 3+1 dimensions** [arXiv:1612.09298](https://arxiv.org/abs/1612.09298)