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Topological quantum field theory and hyperkähler geometry

of

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Abstract: Rozansky and Witten proposed a 3-dimensional sigma-model whose target space is a hyperkähler manifold. They conjectured that this theory has an associated TQFT, with vector spaces given by certain cohomology groups of the hyperkähler manifold. On the other hand, there is a certain modified TQFT constructed by Murakami and Ohtsuki using the universal quantum invariant. We explain how the Rozansky-Witten TQFT can be obtained from the latter by applying a "hyperkähler weight system".

 [Keywords](#)
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