$sl(N)$-link homology using foams and the Kapustin-Li formula

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In joint work with M. Mackaay and P. Vaz [4], we define an almost topological construction of a rational link homology categorifying the $sl(N)$-link invariant. This construction uses foams which generalize the ones introduced by Khovanov in [1]. The evaluation of closed foams uses the Kapustin-Li formula, adapted to the context of foams by Khovanov and Rozansky [2]. We conjecture that our link homology theory is equivalent to Khovanov and Rozansky's in [3]. In this talk I will present the topological aspects of this theory and show how to use the Kapustin-Li formula in order to evaluate the closed foams.

References:
[1] M. Khovanov, $sl(3)$ link homology, Alg.Geom.Top. 4(2004), 1045-1081.
[2] M. Khovanov and L. Rozansky, Topological Landau-Ginzburg models on a world-sheet foam, hep-th/0404189.
[3] M. Khovanov and L. Rozansky, Matrix factorizations and link homology, QA/0401268
[4] M.Mackaay, M. Stosic and P.Vaz, $sl(N)$-link homology using foams and the Kapustin-Li formula, arXiv:0708.2228

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