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Computing knot invariants with topological recursion

Wednesday 25 September 2013 15:00 (20 minutes)

It's been conjectured that the Chern-Simons theory with SU(N) group on S3 in the large N limit can be described by closed topological string. When a Wilson line operator along some knot is inserted in the Chern-Simons theory, some brane appears in the topological string. We give support to the second half of the conjecture by computing the instanton numbers in B-model, using the topological recursion in the spirit of Eynard-Orantin and the spectral curves associated with torus knot insertion proposed by Aganagic and Vafa, and compare with the results in the Chern-Simons theory.

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