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Title: Khovanov Homology

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Abstract: This thesis is an exposition of Khovanov cohomology theory for knots and tangles with a focus on lifting of the construction of Khovanov cochain complex from the local level (for tangles) to the global level (for knots). We review two approaches of the construction of Khovanov cochain complex; one approach is algebraic using graded vector spaces and the other is topological involving cobordisms. Applying a suitable functor (TQFT) on the topological construction

sends us to the algebraic set-up. A formal computation of Khovanov cohomology for the figure eight knot and an illustration of a fast computation algorithm

developed by Dror Bar-Natan is also included in the thesis.

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