

# Chain homotopy maps for Khovanov homology

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**Abstract.** Khovanov homology is a categorification of the Jones polynomial of links. As written in Viro's paper (O.Viro, Fund. Math. 184 (2004), 317–342), "the most fundamental property of the Khovanov homology groups is their invariance under Reidemeister moves". Khovanov homology groups are knot invariants because these groups are invariant under three types of Reidemeister moves. By giving explicit chain homotopy maps using Viro's definition of the homology, he proved the invariance under the first Reidemeister moves. This talk gives chain homotopy maps ensuring the invariance under the other Reidemeister moves. We also discuss a good property of the explicit chain homotopy maps.