1037-55-263 Robert G. Todd* (rtodd@mail.unomaha.edu). Finding non-zero maps between isomorphism classes of tangles.

A cobordism between two links L_1 and L_2 induces a map between the $Kh(L_1)$ and $Kh(L_2)$. Dror Bar-Natan gave a way to talk about cobordisms between tangles and the maps that they induce on the isomorphism class of these tangles. Given two knots it is clear what all are possible non-zero maps from the Khovanov homology of one to the Khovanov homology other. Here we given a homology theory on surfaces which allows one to determine all possible chain maps between Bar-Natan's tangle complexes that induce non-zero maps on the isomorphism classes of the tangles. As an example we derive the maps associated to the Reidemeister moves. (Received February 04, 2008)