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Reidemeister torsion and dynamical zeta functions in Nielsen theory

We give a survey of our results about dynamical zeta function in Nielsen theory and their connections with the Reidemeister torsion. We obtain an expression for the Reidemeister torsion of the mapping torus of the dual map of a group endomorphism, in terms of the Reidemeister zeta function of the endomorphism. The result is obtained by expressing the Reidemeister zeta function in terms of the Lefschetz zeta function of the dual map. What this means is that the Reidemeister torsion counts the Nielsen fixed point classes of all iterates of map i. e. periodic point classes of map. Part of our results is joint work with Violetta Pilyugina and Richard Hill.

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