EMBEDDING THE BRAID GROUP IN MAPPING CLASS GROUPS

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Abstract

Motivated by a question of B. Wajnryb we construct embeddings of the braid group in mapping class groups of surfaces, which are not geometric in the sense that the images of standard generators are not Dehn twists. Our construction uses non-orientable surfaces and the fact that the mapping class group of such a surface embeds via lifting of homeomorphisms in the mapping class group of its orientable double cover.

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