

A new approach to find a reduction system of reducible braids

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Abstract

The n -braid group B_n is the group of automorphisms of the n -punctured disk that fix the boundary point-wise, modulo isotopy relative to the boundary. A braid is *reducible* if it fixes an essential simple closed curve system in the punctured disk. The *reducibility problem* is to decide, given a braid, whether or not it is reducible.

In the this talk, we will survey the approaches to the reducibility problem and present new results to the problem using the canonical reduction system and Garside theory.