

The monoid of singular braids is linear

WON TAEK SONG

The monoid SB_n of singular n -braids is shown to be linear. First we show that for any pair of distinct singular braids, the desingularization $\eta_k: SB_n \rightarrow B_n$, mapping each singular crossing to a consecutive sequence of k crossings, distinguishes them for some k . Then we use a simple extension of the Lawrence-Krammer-Bigelow representation to give an embedding of SB_n into $M(n(n-1)/2, \mathbb{Z}[t^{\pm 1}, q^{\pm 1}, A, B, C])$, a ring of $(n(n-1)/2)$ -dimensional square matrices.

ICU