

ON BRAIDS AND GROUPS G_n^k

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In [1] the first named author gave the definition of k -free braid groups G_n^k . Here we establish connections between free braid groups, classical braid groups and free groups: we describe explicitly the homomorphism from (pure) braid group to k -free braid groups for important cases $k = 3, 4$. On the other hand, we construct a homomorphism from (a subgroup of) free braid groups to free groups. The relations established would allow one to construct new invariants of braids and to define new powerful and easily calculated complexities for classical braid groups.

REFERENCES

- [1] V. O. Manturov, “Non-Reidemeister knot theory and its applications in dynamical systems, geometry, and topology”, arXiv:1501.05208v1 [math.GT] 21 Jan 2015.

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