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Braid group actions, Baxter polynomials, and Yangians

It is well known that the braid group of a simple Lie algebra acts on its integrable representations via exponentials of its Chevalley generators. By modifying this action, we obtain an action of the braid group on a commutative subalgebra of the Yangian by Hopf algebra automorphisms. By dualizing, we recover an action on rational functions constructed in the work of Y. Tan, which was used to obtain a sufficient condition for the cyclicity of any tensor product of irreducible Yangian representations. This talk is based on joint work with Alex Weekes and Curtis Wendlandt.