

GEOMETRIC AND ASYMPTOTIC GROUP THEORY
WITH APPLICATIONS
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Hopf algebras and Representation varieties

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Abstract:

I will describe representation of $Aut(F_n)$ and $Out(F_n)$ arising from (co-)commutative Hopf algebras. Even though this construction does not lead to new representations of $Aut(F_n)$ it gives a uniform way to consider all known finite dimensional representations of these groups. The idea behind this construction lead to a new viewpoint of the representation variety of a discrete group Γ in a Lie group G . I will speculate how this construction can be modified to obtain quantization of the representation varieties. One of the aims of this project is to obtain an new description for quantum representations of mapping class groups.

The talk is based on joint works with J. Conant and A. Patotski.