Etingof, Pavel; Walton, Chelsea
Finite dimensional Hopf actions on deformation quantizations. (English) Zbl 1388.16033

The authors proved in [Adv. Math. 251, 47–61 (2014; Zbl 1297.16029)] that any semisimple Hopf action on a commutative domain over a algebraic closed field $k$ of characteristic zero factors through a group action.

In this article, one considers a formal deformation $H$ of a finite dimensional Hopf algebra acting on a quantum formal deformation $A$ of a commutative domain $A_0$ (which is consequently a Poisson algebra). If the Poisson center of the fraction field of $A_0$ is trivial, it is proved that this action factorizes through a group action. As a corollary, a similar result holds if $H$ is a finite dimensional Hopf algebra.

Reviewer: Loïc Foissy (Calais)

MSC:

16T05 Hopf algebras and their applications
16S80 Deformations of associative rings
17B63 Poisson algebras
16W70 Filtered associative rings; filtrational and graded techniques

Keywords:
deforation quantization; filtered deformation; Hopf algebra action; Poisson center

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References:


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