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Connes–Moscovici Hopf Algebras Associated To Lie Algebras

In this talk, we first remark a nice duality between the double crossed product and the bi-crossed product Hopf algebras.

In this way we associate a bi-crossed product Hopf algebra to any Lie algebra bi-crossed sum. We show that any such Hopf algebra is equipped with a natural modular pair in involution.

We investigate the relationship between the modules over the Lie algebra in question and those on the bi-crossed product Hopf algebra. As a result we associate a stable anti-Yetter–Drinfeld module over the Hopf algebra to any such module. Finally we show that these Hopf algebras cover all known Hopf algebras constructed from Cartan–Lie pseudogroups.

This is joint work with Bahram Rangipour.