Crossed products of crossed modules of Hopf monoids in a braided setting

Ramón González Rodríguez (University of Vigo, Spain)
rgon@dma.uvigo.es

In this talk we introduce a notion of crossed module of Hopf monoids in a braided monoidal category. This new definition contains as a particular instances the notion of crossed module of Hopf algebras defined by J.M. Fernández Vilaboa, M.P. López López and E. Villanueva Nóvoa in 2007, the notion of crossed module of Hopf algebras defined by Y. Fregier and F. Wagemann in 2011 and the notion of Hopf algebra crossed module introduced by S. Majid in 2012. Also we consider a crossed product of two crossed modules of Hopf monoids and give the necessary and sufficient conditions to get a new crossed module of Hopf monoids. Moreover we introduce the notion of projection of crossed modules of Hopf monoids and show that with some additional hypothesis, any of these projections defines a new crossed module of Hopf monoids and allows us to construct an example of crossed module of Hopf monoids using the bosonization process.