Representation of Twisted Tensor Products

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We obtain a faithful representation of the twisted tensor product $B \otimes_\chi A$ of unital associative algebras, when B is finite dimensional. This generalizes the representations of [C] where $B = K[X]/ < X^2 - X >$, [GGV] where $B = K[X]/ < X^n >$ and [JLNS] where $B = K^n$. Furthermore, we establish conditions to extend twisted tensor products $B \otimes_\chi A$ and $C \otimes_\psi A$ to a twisted tensor product $(B \times C) \otimes_\varphi A$.

[A] J. Arce. Representation of twisted tensor Products. arXiv:1505.01232 [math.RA] 6 may 2015.

[C] C. Cibils. Non-commutive duplicates of finite sets. J. Algebra Appl , 5(3):361–377, 2006.

[GGV] A. Guccione, J. J. Guccione and C. Valqui, Non commutative truncated polynomial extensions.

[JLNS] Jara, J. López Peña, G. Navarro and D. Stefan, On the classification of twisting maps between $K^n and K^m, arXiv : 0805.2874v3 [math.RA] 24 Sep 2009$.

Joint work with .