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Karl Schmidt* (kschmidt@ucr.edu). *From Based Modules to Bialgebroids*. Preliminary report.

It is well-known that, for any bialgebra B , the category of B -modules is monoidal. What is less broadly known is that the same is true for a more general class of rings, called bialgebroids. In this talk, I will show how generalizing the notion of "bialgebra" naturally arises from considering based modules for quantum groups, then demonstrate a strategy for defining bialgebroid structures on certain smash product algebras (also known as crossed product algebras). (Received January 25, 2019)