The authors introduce a twisting process for a Hopf algebra, using the bidegree of its elements and show that such a twisting gives rise to a braided Hopf algebra. Applications of this process are the braided $SU_q(2)$, the braided quantum double torus, as well as braided bicovariant differential calculi.

From the abstract: “We show that a class of braided Hopf algebras, which includes the braided $SU_q(2)$ of [P. Kasprzak et al., J. Noncommut. Geom. 10, No. 4, 1611–1625 (2016; Zbl 1358.81128)], is obtained by twisting. We show further examples and demonstrate that twisting of bicovariant differential calculi gives braided bicovariant differential calculi.”

Reviewer: Iakovos Androulidakis (Athína)

MSC:
58B34 Noncommutative geometry (à la Connes)
58B32 Geometry of quantum groups
46L87 Noncommutative differential geometry
81R50 Quantum groups and related algebraic methods applied to problems in quantum theory
46L55 Noncommutative dynamical systems
16T05 Hopf algebras and their applications

Keywords: Hopf algebras; braided geometry; noncommutative geometry

Full Text: DOI arXiv

References:

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.