ON NICHOLS ALGEBRAS OF DIAGONAL TYPE

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ABSTRACT

We give an explicit and essentially minimal list of defining relations of a Nichols algebra of diagonal type with finite root system. This list contains the well-known quantum Serre relations but also many new variations. A conjecture by Andruskiewitsch and Schneider states that any finite-dimensional pointed Hopf algebra over an algebraically closed field of characteristic zero is generated as an algebra by its group-like and skew-primitive elements. As an application of our main result, we prove the conjecture when the group of group-like elements is abelian.

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