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Journal of Lie Theory 24 (2014) 351–372

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Finite Dimensional Nichols Algebras over Finite Cyclic Groups

All finite dimensional Nichols algebras of diagonal type of connected finite dimensional Yetter-Drinfeld modules over a finite cyclic group \mathbb{Z}_n are found. It is proved that the Nichols algebra of a connected Yetter-Drinfeld module V over \mathbb{Z}_n with $\dim V > 3$ is infinite dimensional.

Keywords: Arithmetic root system, Hopf algebra, cyclic group.

MSC: 16W30, 11A07