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Burnside's $p^n q^m$ theorem for Hopf algebras

Let p and q be primes and let H be a semisimple (quasi-)Hopf algebra of dimension $p^n q^m$. We will show that the representation category of H can be obtained from cyclic groups by a sequence of equivariantizations and extensions . This can be viewed as a categorical analogue of the classical Burnside's theorem saying that finite groups of order $p^n q^m$ are solvable. As a consequence we obtain that H contains non-trivial group-like elements and dimensions of irreducible H-modules divide dimension of H, i.e., Kaplansky's 6th conjecture holds for H.

This is a report on a joint work with P. Etingof and V. Ostrik.