

Gelfand-Kirillov Dimension of Connected Hopf Algebras

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Abstract

The Gelfand-Kirillov Dimension (GK.dim) is a notion that determines the growth rate of an algebraic object, such as a group or an algebra. We will define GK.dim, give some examples, and state some results from the literature. Furthermore, we apply this notion to analyze a class of algebras that are a generalization of a universal enveloping algebra of a Lie algebra called connected Hopf algebras.