

# Koszulity, Hilbert and Poincaré series of finitely semi-graded algebras

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## Abstract

In this talk we introduce the class of semi-graded algebras. The Koszulity behavior of these algebras is analyzed by the computation of the associated lattice. The Hilbert and Poincaré series are also computed. Finitely semi-graded algebras include properly the class of finitely graded algebras generated in degree one as well as many important examples of skew *PBW* extensions.

*Key words and phrases.* Finitely graded algebras, finitely semi-graded algebras, Koszul algebras, semi-graded Koszul algebras, distributive lattices, skew *PBW* extensions.

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