

ALGEBRA SEMINAR

Growth functions in algebra: a challenge, II

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ABSTRACT: In the second (and concluding) lecture of this series, I will explain how growth functions of groups can be placed into the larger context of growth functions for algebras via the construction of “group algebras”. The growth degree of a group, as explained in the first lecture, then becomes the so-called Gelfand-Kirillov dimension of the corresponding group algebra. Furthermore, classical results from the theory of Poincaré-Hilbert series of graded algebras can be brought to bear on the problem of describing the growth functions of certain groups. However, thus far, no easy proof via algebras has been found for Benson’s Theorem on growth functions of abelian-by-finite groups – this result was discussed in the first lecture. Finding such a proof remains a challenge to non-commutative algebraists.

MONDAY, SEPTEMBER 15, 2014

1:30 – 2:30 PM

ROOM 617, WACHMAN HALL
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