СЕМИНАР
„АЛГЕБРА И ЛОГИКА"

Драги колеги,

**Следващото заседание на семинара ще се проведе
на 11 декември 2015 г. (петък) от 11:00 часа
в зала 578 на ИМИ – БАН.
Доклад на тема**

Sequences of commutative monomial algebras and the Hilbert series of noncommutative algebras

ще изнесе

Prof. Roberto La Scala
(University of Bari, Italy).

Поканват се всички желаещи.

От секция „Алгебра и логика" на ИМИ – БАН

http://www.math.bas.bg/algebra/seminarAiL/

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Abstract

For infinite dimensional (finitely generated associative) algebras a natural problem is to study their "size" by means of the growth of the dimensions of their filtered or homogeneous components. In particular, one may want to compute the corresponding generating series of these dimensions sequences, that is, the Hilbert series. For noncommutative algebras, the classical approach consists in solving these problems via word combinatorics, graph methods, etc.

In this talk we propose a different path based on the possibility to encode a graded noncommutative algebra as a sequence of finite dimensional commutative ones. This approach applies in particular to monomial algebras to which case one is reduced when computing growths and Hilbert series. We generalize then such notions for a class of commutative monomial algebra sequences providing conditions for having the sum of the corresponding series as a rational function. We develop also an effective method for computing explicitly this rational function. This approach is based on purely algebraic constructions as graded algebra isomorphisms and ideal operations. When applied to noncommutative monomial algebras, this implies a new viewpoint in the theory and computation of noncommutative Hilbert series.