The 9th Seminar on Commutative Algebra and Related Topics
Ferdowsi University of Mashhad, November 7-8, 2012

Golod property of monomial ideals

Seyed Amin Seyed Fakhari
Department of Pure Mathematics,
Sharif University of Technology, Tehran, Iran
fakhari@ipm.ir

Abstract

For a graded ideal I in the polynomial ring $S = \mathbb{K}[x_1, \ldots, x_n]$ in n variables over the field $\mathbb{K}$ the ring S/I is called *Golod* if all Massey operations on the Koszul complex of S/I with respect to $\mathrm{x} = x_1, \ldots, x_n$ vanish. In this talk we show that for any two proper monomial ideals I and J in the polynomial ring $S = \mathbb{K}[x_1, \ldots, x_n]$ the ring S/IJ is Golod. We also show that if I is squarefree then for large enough k the quotient $S/I^{(k)}$ of S by the k^{th} symbolic power of I is Golod. As an application we prove that the multiplication on the cohomology algebra of some classes of moment-angle complexes is trivial.