

*The 11th Seminar on
Commutative Algebra and Related Topics, November 10 and 11, 2014
School of Mathematics, IPM, Tehran*

Castelnuovo-Mumford Regularity of Ideal Powers

Ngo Viet Trung

Institute of Mathematics, VAST

Vietnam

This lecture is a survey on the (Castelnuovo-Mumford) regularity of ideal powers, starting with a short introduction on the regularity and going on with a discussion on its asymptotic behavior. We will see that if I is a homogeneous ideal in a polynomial ring, then the regularity of I^n is asymptotically a linear function $dn + e$. The main focus is on the description of the invariants d, e and the stability index of this function.