

Castelnuovo Mumford Regularity of Ideal Powers

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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.