ICM 1998, Berlin, Aug. 18–27

Abstracts of Short Communications and Posters

Section:

2. Algebra

1991 MS Classification: 13 14

Kodiyalam, Vijay, The Institute of Mathematical Sciences, Chennai

Asymptotic behaviour of Castelnuovo-Mumford regularity Let S be a polynomial ring over a field. For a graded S-module generated in degree at most P, the Castelnuovo-Mumford regularity of each of (i) its n^{th} symmetric power, (ii) its n^{th} torsion-free symmetric power and (iii) the integral closure of its n^{th} torsion-free symmetric power is bounded above by a linear function in n with leading coefficient at most P. For a graded ideal I of S, the regularity of I^n is given by a linear function of n for all sufficiently large n. The leading coefficient of this function is identified.