

1012-13-210

**Bahman Engheta\*** ([engheta@math.ucr.edu](mailto:engheta@math.ucr.edu)), Department of Mathematics, University of California Riverside, 202 Surge Building, Riverside, CA 92521. *Bounds on Projective Dimension.*

Motivated by a question of Stillman, which asks whether the projective dimension of ideals in polynomial rings over a field can be bounded solely in terms of the minimal number of generators of the ideal and the degrees of those generators, but independently of (the dimension of) the ring, we consider the case of ideals generated by three cubic forms. By drawing on linkage theory and studying the unmixed part of the ideal, we show that the projective dimension of  $R/J$  is bounded by 36, where  $J$  is any ideal generated by three cubic forms in an arbitrary polynomial ring  $R$  over a field. (Received September 20, 2005)