

1092-13-245

Craig Huneke, Paolo Mantero, Jason McCullough* (jmccullough@rider.edu) and
Alexandra Seceleanu. *Multiple Structures with Arbitrarily Large Projective Dimension.*

Let S be a polynomial ring over an algebraically closed field K . In his study of Stillman's Question, Engheta gave a finite classification of unmixed ideals of S of height 2 and multiplicity 2. For any other height and multiplicity both at least 2, we give an explicit construction of unmixed ideals of arbitrarily large projective dimension; hence no extension of Engheta's result is possible. Our result also contrasts with Manolache's finite classification of Cohen-Macaulay multiple structures supported on linear subspaces. (Received August 11, 2013)