Meeting: 999, Nashville, Tennessee, SS 8A, Special Session on Algebraic Geometry and Commutative Algebra

999-13-157 **Leah H. Gold*** (lgold@math.tamu.edu), Department of Mathematics, Texas A&M University, College Station, TX 77843-3368, and **Hal Schenck** and **Hema Srinivasan**. *Betti Numbers and Degree Bounds For Some Linked Zero-schemes.*

In 1985 Huneke and Miller published a succinct formula for the degree of R/I when R/I is Cohen-Macaulay and has a pure resolution. Later Huneke, Srinivasan, and Herzog generalized this statement with some conjectures about bounds for the degree in terms of the largest and smallest Betti numbers. Numerous calculations have supported these conjectures, but proofs are elusive. We will discuss the conjectures and some recent progress using linkage. In particular, if R/I is Cohen-Macaulay, we may reduce to the case where I defines a zero-dimensional subscheme Y. If Y is residual to a zero-scheme of a certain type, then we can show that the conjecture is true for I_Y. (Received August 20, 2004)