

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

999-13-267 **Ben Richert*** (brichert@calpoly.edu), Mathematics Department, California Polytechnic State University, San Luis Obispo, CA 93407. *Special resolutions and the Eisenbud-Green-Harris conjecture*. Preliminary report.

The Eisenbud-Green-Harris conjecture specifies that after fixing a Hilbert function and a list of degrees, the first graded Betti numbers of a certain ideal (the lex-plus-powers ideal) should be uniquely largest among those of all ideals attaining the given Hilbert function and containing a regular sequence in the given degrees. We reduce this conjecture to showing that counterexamples with certain (seemingly unlikely) resolutions do not exist, and discuss the graded Betti numbers which arise. (Received August 24, 2004)