

1064-13-218

Juan Migliore and **Megan Patnott*** (mpatnott@nd.edu), Department of Mathematics,
University of Notre Dame, 255 Hurley Hall, Notre Dame, IN 46556. *Minimal Free Resolutions of
General Points on Cubic Surfaces*. Preliminary report.

The Minimal Resolution Conjecture (MRC), roughly stated, says that the graded minimal free resolution of a general set of points in \mathbb{P}^n has no “ghost terms.” A generalization of the MRC for arbitrary varieties in \mathbb{P}^n , given by Mustață, predicts that the graded Betti numbers of the ideal of such a variety completely determine those of the ideal of a general set of points on it. In particular, it predicts that the graded minimal free resolution of a general set of points on an arbitrary variety, X , in \mathbb{P}^n has no ghost terms, except where forced to do so by X . Casanellas showed that this generalized MRC holds for t general points on a smooth cubic surface in \mathbb{P}^3 for certain special values of t , using Gorenstein liaison. Our result extends hers by verifying the conjecture for all t and allowing the cubic surface to have isolated double points. We give an overview of the work done on both the MRC and the generalized MRC, and then discuss our result. (Received September 09, 2010)