

1009-16-108

Carrie E Finch* (cfinch@math.sc.edu), Department of Mathematics, University of South Carolina, Columbia, SC 29201, and **Andrew R. Kustin** and **Jerzy M. Weyman**. *The differential in the minimal free resolution of the universal ring for resolutions of length two.*

Let K be a field of characteristic zero, E , F and G finite dimensional vector spaces over K , and X the variety of complexes $E \rightarrow F \rightarrow G$, where the right most map has rank less than the dimension of G and the dimension of F is equal to the sum of the dimensions of the other two vector spaces. The minimal resolution of the coordinate ring X may be viewed as an iterated mapping cone of a rectangular picture. The right column of the picture is a subcomplex of the Koszul complex associated to the composition. The rows of the picture consist of resolutions of maximal Cohen-Macaulay modules over a determinantal ring defined by maximal order minors. We use Representation Theory to describe the differential in this resolution. (Received August 09, 2005)