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**Mark Johnson** and **Paolo Mantero\*** ([mantero@math.ucr.edu](mailto:mantero@math.ucr.edu)). *Parametrizing liaison classes*. Preliminary report.

In the present talk we provide two different general techniques to construct a large amount of (complete intersection) liaison classes in a given ring. A somewhat surprising consequence of these results is that if  $I$  a Cohen-Macaulay ideal in a polynomial ring  $R$  and  $x$  and  $y$  are two new variables, then  $(I, x)$  and  $(I, y)$  are not in the same linkage class (if  $I$  is not licci). This is in sharp contrast with a recent result of Migliore and Nagel, proving that the analogous statement for Gorenstein liaison actually holds.

We then show that the linkage classes constructed in these two ways are parametrized (in an intuitive way) on very large spaces, which illustrates mathematically the concept that "there are many complete intersection linkage class".

With these results we provide a simple way of constructing ideals that are maximal in their linkage classes starting from other ideals having the same property. For instance, if  $I$  is maximal in its linkage class, and  $x$  and  $y$  are new variables, then  $(I, x^2, xy, y^2)$  is also maximal. Ideals  $I$  that are maximal in their linkage classes are relevant as their Rees Algebras and the Rees algebras of ideals linked to them have good properties (e.g. they are Cohen-Macaulay, under mild assumptions on  $I$ ). (Received January 31, 2014)