1096-13-1831 **Branden Stone*** (bstone@bard.edu), **Courtney Gibbons**, **Jack Jeffries**, **Sarah Mayes**, **Claudiu Raicu** and **Bryan White**. *Non-simplicial decompositions of Betti diagrams of complete intersections.*

The theory of Boij and Söderberg allows us to decompose Betti diagrams into pure diagrams. In this talk we relax the requirement that the degree sequences in such pure diagrams be totally ordered. As a result, we were able to define a multiplication law for Betti diagrams that respects the decomposition. Given the Betti diagram of any complete intersection, this new law allows us to write a simple pure diagram decomposition in terms of the degrees of the minimal generators for the complete intersection. This work was done as part of a Mathematical Sciences Research Institute summer graduate workshop in 2011. (Received September 16, 2013)