1092-13-231   **Courtney Gibbons***, Department of Mathematics, Hamilton College, 198 College Hill Road, Clinton, NY 13323, and **Jack Jeffries**, **Sarah Mayes**, **Claudiu Raicu**, **Branden Stone** and **Bryan White**. *Nonsimplicial decompositions of Betti diagrams.*

We investigate decompositions of Betti diagrams over a polynomial ring within the framework of Boij–Söderberg theory. That is, given a Betti diagram, we decompose it into pure diagrams. Relaxing the requirement that the degree sequences in such pure diagrams be totally ordered, we are able to define a multiplication law for Betti diagrams that respects the decomposition and allows us to write a simple expression the decomposition of the Betti diagram of any complete intersection in terms of the degrees of its minimal generators. This work was done as part of a Mathematical Sciences Research Institute summer graduate workshop in 2011. (Received August 10, 2013)