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Jessica Sidman* (jsidman@mtholyoke.edu), 415A Clapp Lab, Dept. of Mathematics and Statistics, Mount Holyoke College, South Hadley, MA 01075. *Lexicographic initial ideals*. Preliminary report.

A term ordering $>$ on the monomials in a polynomial ring provides a mechanism for passing from an arbitrary ideal I to a monomial ideal, the initial ideal of I with respect to $>$, which we may hope to understand combinatorially. The lexicographic, or “dictionary order” on monomials, is natural from everyday use and also has a nice geometric interpretation related to projections. It is well-known that the lexicographic term ordering is not optimal from a computational point of view. However, there are many intriguing links between geometry and the “complexity” of the lexicographic term ordering that are yet to be explored. I will discuss ongoing work on the lexicographic initial ideals of complete intersections and curves which extends earlier work with Aldo Conca. (Received August 09, 2005)