1009-13-75        **Christopher A. Francisco\*** (`chrisf@math.missouri.edu`), Department of Mathematics, Univ. of Missouri, 202 Mathematical Sciences Building, Columbia, MO 65211, and **Adam Van Tuyl**.
*Some families of componentwise linear ideals.* Preliminary report.

Let $J = \{j_1, \ldots, j_t\}$ be a subset of $[n] = \{1, \ldots, n\}$, and let $\mathfrak{m}_J$ be the ideal $(x_{j_1}, \ldots, x_{j_t})$ in $R = k[x_1, \ldots, x_n]$. We will discuss ideals of the form $I = \mathfrak{m}_{J_1}^{a_1} \cap \cdots \cap m_{J_s}^{a_s}$, where the $J_i$ are subsets of $[n]$. These ideals arise naturally in a number of settings, including as ideals of some sets of fat points, as ideals of tetrahedral curves, and in combinatorics when all $a_i = 1$. We will identify a number of cases in which these ideals are componentwise linear by using the theory of polymatroidal ideals, and we will discuss some applications. (Received August 04, 2005)