1049-94-26Friedrich Eisenbrand* (friedrich.eisenbrand@epfl.ch), EPFL IMA, Station 8, 1015Lausanne, Switzerland, and Gennady Shmonin, EPFL SB IMA Station 8, 1015Lausanne,Switzerland. Parametric integer programming in fixed dimension.Switzerland.

A parametric integer program consists of an integral matrix $A \in Z^{m \times n}$ and a polyhedron $Q \subseteq R^m$. The problem is to determine, whether there exists a right-hand-side $b \in Q$ such that $Ax \leq b$ is an integer infeasible inequality system. Kannan showed that this problem can be solved in polynomial time, if the number of columns n of A and the affine dimension of Q are fixed. In this talk we show that there exists an extension of this algorithm which runs in polynomial time under the only requirement that the number of columns of A is fixed. (Received January 24, 2009)