1052-11-187 **Michael J. Mossinghoff*** (mimossinghoff@davidson.edu), Department of Mathematics, Davidson College, Davidson, NC 28035. *Turan's problem on the distance to an irreducible polynomial.*

More than 40 years ago, Turán asked if every integer polynomial is 'close' to an irreducible polynomial. More precisely, he asked if there exists an absolute constant C such that for every polynomial $f \in \mathbb{Z}[x]$ there exists an irreducible polynomial $g \in \mathbb{Z}[x]$ with $\deg(g) \leq \deg(f)$ and $L(f-g) \leq C$, where $L(\cdot)$ denotes the sum of the absolute values of the coefficients. This problem remains unsolved. We describe some algorithms used to investigate this question, and show in particular that $C = 4$ suffices for monic polynomials with degree less than 35. We also describe how well our results fit the predictions of a heuristic model. (Received August 27, 2009)