1046-65-1885   **Danko Adrovic** (`adrovic@math.uic.edu`), University of Illinois at Chicago, Dept. of Math, Stat & CS, 851 S. Morgan St. (m/c 249), Chicago, IL 60607-7045, and **Jan Verschelde*** (`jan@math.uic.edu`), University of Illinois at Chicago, Dept. of Math, Stat & CS, 851 S. Morgan St. (m/c 249), Chicago, IL 60607-7045. *Polyhedral Methods to find Common Factors of Algebraic Plane Curves.* Preliminary report.

Deciding whether two polynomials in two variables with approximate coefficients have a common factor is a problem in symbolic-numeric computing. The tropical viewpoint leads us to compute tropisms. Tropisms define initial forms of the polynomials which have common roots. These common roots are the initial coefficients of the Puiseux series used to grow to representation of the common factor. The algorithms we use to compute tropisms and coefficients of the Puiseux series lead to an efficient symbolic-numeric preprocessing method to decide whether two polynomials share a common factor. (Received September 16, 2008)