1048-13-148   **Mireille Boutin*** (`mboutin@purdue.edu`), 465 Northwestern Avenue, West Lafayette, IN 47907.
An effective solution methods for systems of polynomial equations arising in applications. Preliminary report.

Most polynomial systems of equation that arise in practice are overdetermined. Moreover, the polynomial coefficients are typically noisy and the presence of outliers is not rare. We propose a solution method for such systems of equations and illustrate its effectiveness in solving some systems of 30-100 equations of degree five in two variables arising in an image processing application. This work is in collaboration with Ji Zhang. (Received February 04, 2009)