

1016-65-278

**Zhonggang Zeng\*** (zzeng@neiu.edu), Department of Mathematics, Northeastern Illinois University, Chicago, IL 60625. *Numerical Elimination for Solving Polynomial Systems*. Preliminary report.

Recursive elimination can be accomplished by computing Groebner basis with symbolic computation. This talk presents a numerical approach for computing a polynomial in an elimination ideal generated by any given pair of multivariate polynomials via rank-revealing of certain elimination matrices. The method may be particularly useful for polynomial systems possessing positive dimensional solutions, where a nontrivial polynomial GCD can be induced from recursive elimination of variables. Results of numerical experiment will also be presented. (Received February 14, 2006)