

Meeting: 1001, Evanston, Illinois, SS 2A, Special Session on Extremal Combinatorics

1001-05-140 **Andre E Kezdy*** (kezdy@louisville.edu), Department of Mathematics, University of Louisville, Louisville, KY 40292. *Listening for Perfect Matchings in Bipartite Graphs*. Preliminary report.

To apply successfully the "Combinatorial Nullstellensatz" technique, one must find a nonzero coefficient in a multivariate polynomial – a nontrivial task, typically. These coefficients can be viewed as frequencies to which one can listen for the presence of a combinatorial object. To hone the method to find such noisy frequencies, the problem of detecting (via this technique) a perfect matching in a bipartite graph – a well known "easy" problem – was chosen as a prototype. I will mention recent advances and some serendipitous discoveries. (Received August 20, 2004)