

1116-05-343

Boris Bukh* (bbukh@math.cmu.edu), Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA 15213. *Ranks of matrices with few distinct entries.*

Given a number λ , what is the maximum multiplicity of λ as an eigenvalue of an adjacency matrix of an n -vertex digraph? I will present a solution to this question, and describe general results of ranks of matrices with few distinct entries. The connection to the “linear algebra method in combinatorics” will also be explained. In particular, I will mention applications to spherical codes and L -intersecting families. (Received August 26, 2015)