

# Eigenvalues that bound independent sets in graphs

Mike Newman

School of Mathematical Sciences, Queen Mary, University of London  
m.newman@qmul.ac.uk

## **Abstract**

Our starting point is the well-known Hoffman eigenvalue bound on independent sets. We wish to apply this to the so-called Erdos Renyi graphs, but a naive application doesn't give a very good bound. We develop variants which are better, in particular, one based on the Laplacian matrix.