

ATELIER « COMBINATOIRE, RANDOMISATION, ALGORITHMES ET PROBABILITÉS »
4–8 MAI 2009

WORKSHOP “COMBINATORICS, RANDOMIZATION, ALGORITHMS AND PROBABILITY”
MAY 4–8, 2009

Resilience of Random Graphs

BENNY SUDAKOV

Mathematics Department
UCLA
Box 951555
Los Angeles, CA 90095-1555
USA

`bsudakov@math.ucla.edu`

The (local) resilience of a graph G with respect to a property \mathcal{P} measures how much one has to change G (locally) in order to destroy \mathcal{P} . Estimating the resilience of graphs leads to a host of interesting and challenging problems. Indeed, one can match any interesting graph with any natural property and ask for corresponding resilience. In fact, many celebrated theorems in extremal graph theory can be stated in terms of resilience of a complete graph. In this talk we focus on resilience of random graphs, prove several tight results and mention few open problems.

This is joint work with Ben-Shimon, Krivelevich, Lee and Vu.