Complex networks

(Talk)

Damir Vukičević

Department of Mathematics, Faculty of Science and Mathematics,
University of Split
`vukicevic@pmfst.hr`

Complex network theory can be applied as useful model in many sciences: computer science (www, internet, interdependencies in object oriented programing), sociology (friendship network, acquaintance network), medicine (network of contacts, network of sexual partners), communication theory (road-maps, airline networks), biology (protein interaction networks), and so on. Some of the most important problems in network theory are: identification of the most important nodes (hubs), detecting community structure, reconstructing missing data, and detecting important network invariants that give relevant information of some process influenced by graph theoretical structure of the network. In this talk several algorithms that attack these problems and several results of extremal graph theory regarding network invariants will be presented.

Section: Applications of Mathematics in the Sciences .

.