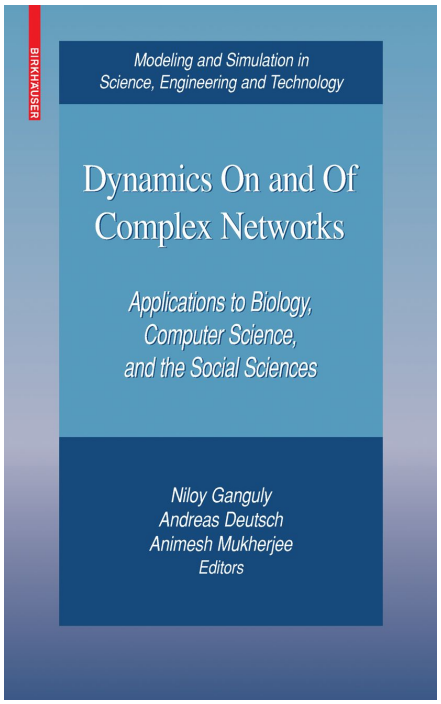

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Dynamics On and Of Complex Networks

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In the context of network theory, Complex networks can be de?ned as a collection of nodes connected by edges representing various complex int- actions among the nodes. Almost any large-scale system, be it natural or man-made, can be viewed as a complex network of interacting entities, which is dynamically evolving over time. Naturally occurring networks include - ological, ecological and social networks (e. g. , metabolic networks, gene r- ulatory networks, protein interaction networks, signaling networks, epidemic networks, food webs, scienti?c collaboration networks and acquaintance n- works), whereas man-made networks include communication networks and transportation infrastructures (e. g. , the Internet, the World Wide Web, pe- to-peer networks, power grids and airline networks). This edited volume is a sequel to the workshop Dynamics on and of C- plex Networks (http://www. cel. iitkgp. ernet. in/?eccs07/) held as a satellite event of the fourth European Conference on Complex Systems in Dresden, Germany from October 1–5, 2007. The primary aim of this workshop was to systematically explore the statistical dynamics "on" and "of" complex n- works that prevail across a large number of scienti?c disciplines. Dynamics on networks refers to the di?erent types of processes, for instance, prolife- tion and di?usion, that take place on networks. The functionality/e?ciency of these processes is strongly tied to the underlying topology as well as the dynamic behavior of the network.