1. Record Nr. UNINA9910299926103321

Autore	Singh Jyoti Prakash
Titolo	Ad Hoc Networks : A Statistical Perspective / / by Jyoti Prakash Singh, Paramartha Dutta, Amlan Chakrabarti
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-8770-9
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (136 pages)
Disciplina	004.68
Soggetti	Electrical engineering Computer communication systems Mobile computing Communications Engineering, Networks Computer Communication Networks Mobile Computing
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Introduction -- Time series Analysis -- Preliminaries -- Neighbor Counts Modelling -- Link Load Modelling -- Path Length Modelling -- Clustering Modelling -- Delay Modelling and Prediction -- Conclusion and Perspective -- References -- Index.
Sommario/riassunto	This book identifies the time-dependent network parameters: neighbour count, link load, path length, cluster count and delay, and presents a first-of-its-kind discussion on temporal parameters in mobile ad hoc networks. Frequent topology changes and multiple link failures occur in mobile ad hoc network due to arbitrary and random movement of nodes. This dynamic environment challenges the delivery of data and makes it essential to find better models for network parameters that are shifting with time. The parameters identified are put into the framework of time series because of their temporal characteristic, and when they are modelled using time series framework they exhibit a sound fit with Autoregressive AR(p) models of order p. The order p is evaluated for each fitted model and found to lie between one and three. The book also analyses the dependence of end-to-end delay of ad hoc network on various external factors such as the number

of nodes, routing protocol, mobility models and path length and develops two prediction models. The book will be useful for researchers and professionals alike.