

<<Networks网络>>

图书基本信息

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内容概要

Point-to-point vs. hub-and-spoke. Questions of network design are real and involve many billions of dollars. Yet little is known about optimizing design - nearly all work concerns optimizing flow assuming a given design. This foundational book tackles optimization of network structure itself, deriving comprehensible and realistic design principles. With fixed material cost rates, a natural class of models implies the optimality of direct source-destination connections, but considerations of variable load and environmental intrusion then enforce trunking in the optimal design, producing an arterial or hierarchical net. Its determination requires a continuum formulation, which can however be simplified once a discrete structure begins to emerge. Connections are made with the masterly work of Bendsøe and Sigmund on optimal mechanical structures and also with neural, processing and communication networks, including those of the Internet and the Worldwide Web. Technical appendices are provided on random graphs and polymer models and on the Klimov index.

作者简介

Peter Whittle is Professor Emeritus at the University of Cambridge. From 1973 to 1986 he was Director of the Statistical Laboratory, Cambridge. He is a Fellow of the Royal Society and this is his 11th book.

书籍目录

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hierarchical structure Road networks Structural optimisation: Michell structures Computational experience of
evolutionary algorithms Structure design for variable load Part : Artificial neural networks Models and learning
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