Título: Modelling And Optimisation Of Flows On Networks

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Sinopsis

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Rich notes on most recent advances on traffic flow on networks, including control and optimization. Tutorials on conservation laws,,wave equations and optimal transport theory Diverse applications such as vehicular traffic, supply chains and others

In recent years flows in networks have attracted the interest of many researchers from different areas, e.g. applied mathematicians, engineers, physicists, economists. The main reason for this ubiquity is the wide and diverse range of applications, such as vehicular traffic, supply chains, blood flow, irrigation channels, data networks and others.

This book presents an extensive set of notes by world leaders on the main mathematical techniques used to address such problems, together with investigations into specific applications. The main focus is on partial differential equations in networks, but ordinary differential equations and optimal transport are also included. Moreover, the modeling is completed by analysis, numerics, control and optimization of flows in networks.

The book will be a valuable resource for every researcher or student interested in the subject.
Content Level » Research

Keywords » 35R02, 35L65, 90B20 - Optimal transport - Partial differential equations - Traffic flow - Vehicular traffic

Related subjects » Analysis - Dynamical Systems & Differential Equations - Mathematics