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Nota di contenuto	1. Minimax approach and Steiner ratio. 1.1. Minimax approach. 1.2. Steiner ratio in the Euclidean plane. 1.3. Steiner ratios in other metric spaces. 1.4. Discussions -- 2. k-Steiner ratios and better approximation algorithms. 2.1. k-Steiner ratio. 2.2. Approximations better than minimum spanning tree. 2.3. Discussions -- 3. Geometric partitions and polynomial time approximation schemes. 3.1. Guillotine cut for rectangular partition. 3.2. Portals. 3.3. Banyan and Spanner. 3.4. Discussions -- 4. Grade of service Steiner Tree problem. 4.1. GoSST problem in the Euclidean plane. 4.2. Minimum GoSST problem in graphs. 4.3. Discussions -- 5. Steiner Tree problem for minimal Steiner points. 5.1. In the Euclidean plane. 5.2. In the rectilinear plane. 5.3. In metric spaces. 5.4. Discussions -- 6. Bottleneck Steiner tree problem. 6.1. Complexity study. 6.2. Steinerized minimum spanning tree algorithm. 6.3. 3-restricted Steiner Tree algorithm. 6.4. Discussions -- 7. Steiner k-Tree and k-Path routing problems. 7.1. Problem formulation and complexity study. 7.2. Algorithms for k-Path routing problem. 7.3. Algorithms for k-Tree routing problem. 7.4. Discussions -- 8. Steiner Tree coloring problem. 8.1. Maximum tree coloring. 8.2. Minimum tree coloring. 8.3. Discussions -- 9. Steiner Tree scheduling

problem. 9.1. Minimum aggregation time. 9.2. Minimum multicast time problem. 9.3. Discussions -- 10. Survivable Steiner network problem. 10.1. Minimum k-connected Steiner networks. 10.2. Minimum weak two-connected Steiner networks. 10.3. Minimum weak three-edge-connected Steiner networks. 10.4. Discussions.

Sommario/riassunto

The Steiner tree problem is one of the most important combinatorial optimization problems. It has a long history that can be traced back to the famous mathematician Fermat (1601-1665). This book studies three significant breakthroughs on the Steiner tree problem that were achieved in the 1990's, and some important applications of Steiner tree problems in computer communication networks researched in the past fifteen years. It not only covers some of the most recent developments in Steiner tree problems, but also discusses various combinatorial optimization methods, thus providing a balance between theory and practice.
