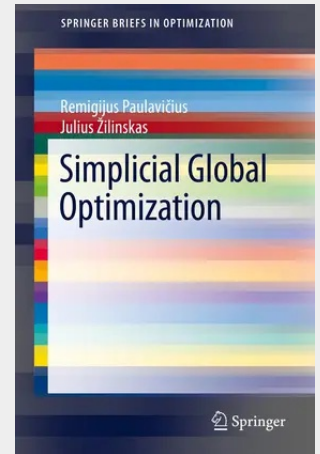


Simplicial Global Optimization

Simplicial Global Optimization is centered on deterministic covering methods partitioning feasible region by simplices. This book looks into the advantages of simplicial partitioning in global optimization through applications where the search space may be significantly reduced while taking into account symmetries of the objective function by setting linear inequality constraints that are managed by initial partitioning. The authors provide an extensive experimental investigation and illustrates the impact of various bounds, types of subdivision, strategies of candidate selection on the performance of algorithms. A comparison of various Lipschitz bounds over simplices and an extension of Lipschitz global optimization with-out the Lipschitz constant to the case of simplicial partitioning is also depicted in this text. Applications benefiting from simplicial partitioning are examined in detail such as nonlinear least squares regression and pile placement optimization in grillage-type foundations. Researchers and engineers will benefit from simplicial partitioning algorithms such as Lipschitz branch and bound, Lipschitz optimization without the Lipschitz constant, heuristic partitioning presented. This book will leave readers inspired to develop simplicial versions of other algorithms for global optimization and even use other non-rectangular partitions for special applications.

Simplicial Global Optimization is centered on deterministic covering methods partitioning feasible region by simplices. This book looks into the advantages of simplicial partitioning in global optimization through applications where the search space may be significantly reduced while taking into account symmetries of the objective function by setting linear inequality constraints that are managed by initial partitioning. The authors provide an extensive experimental investigation and illustrates the impact of various bounds, types of subdivision, strategies of candidate selection on the performance of algorithms. A comparison of various Lipschitz bounds over simplices and an extension of Lipschitz global optimization with-out the Lipschitz constant to the case of simplicial partitioning is also depicted in this text. Applications benefiting from simplicial partitioning are examined in detail such as nonlinear least squares regression and pile placement optimization in grillage-type foundations. Researchers and engineers will benefit from simplicial partitioning algorithms such as Lipschitz branch and bound, Lipschitz optimization without the Lipschitz constant, heuristic partitioning presented. This book will leave readers inspired to develop simplicial versions of other algorithms for global optimization and even use other non-rectangular partitions for special applications.



53,49 €

49,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9781461490920

Medium: Buch

ISBN: 978-1-4614-9092-0

Verlag: Springer

Erscheinungstermin: 09.10.2013

Sprache(n): Englisch

Auflage: 2014

Serie: SpringerBriefs in Optimization

Produktform: Kartoniert

Gewicht: 236 g

Seiten: 137

Format (B x H): 155 x 235 mm

