

1. Record Nr.	UNINA9910151931603321
Autore	Onn Shmuel
Titolo	Nonlinear Discrete Optimization [[electronic resource] ] : An Algorithmic Theory // Shmuel Onn
Pubbl/distr/stampa	Zuerich, Switzerland, : European Mathematical Society Publishing House, 2010
ISBN	3-03719-593-2
Descrizione fisica	1 online resource (147 pages)
Collana	Zurich Lectures in Advanced Mathematics (ZLAM)
Classificazione	90-xx05-xx15-xx68-xx
Soggetti	Linear programming Operations research, mathematical programming Combinatorics Linear and multilinear algebra; matrix theory Computer science
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Sommario/riassunto	This monograph develops an algorithmic theory of nonlinear discrete optimization. It introduces a simple and useful setup which enables the polynomial time solution of broad fundamental classes of nonlinear combinatorial optimization and integer programming problems in variable dimension. An important part of this theory is enhanced by recent developments in the algebra of Graver bases. The power of the theory is demonstrated by deriving the first polynomial time algorithms in a variety of application areas within operations research and statistics, including vector partitioning, matroid optimization, experimental design, multicommodity flows, multi-index transportation and privacy in statistical databases. The monograph is intended for graduate students and researchers. It is accessible to anyone with standard undergraduate knowledge and mathematical maturity.