

CONTENTS

1	Introduction	5
2	Warm-Start Cuts for Generalized Benders Decomposition	5
2.1	Main Ideas	5
2.2	GBD for Two-Stage Stochastic Programming Problems	6
2.3	Solution Procedure	7
2.4	Reformulation with Bounding Cut	8
3	Waste Transfer Station Planning by Stochastic Programming	10
3.1	Introduction	10
3.2	Problem Description	10
3.3	Implementation and Results	12
4	Chance Constrained Problems	14
4.1	Introduction	14
4.2	Sample Counterpart	15
4.3	Pool & Discard Algorithm	17
4.3.1	Pooling Part	17
4.3.2	Discarding Part	18
4.3.3	Implementation	19
5	Chance Constrained Optimal Beam Design: Convex Reformulation and Probabilistic Robust Design	20
5.1	Introduction	20
5.2	Problem Formulation	20
5.2.1	FEM Problem Approximation and Solution	21
5.2.2	Additional Variable, Constraints and Convex Reformulation	22
5.3	Random Loads and Robust Solution	23
5.4	Chance Constraints and Probabilistic Robust Design	24
5.5	Numerical Results	25
	Bibliography	27