## Contents

Preface	vii
Numerical analysis of a multi-phasic mass transport problem J-D. Benamou, Y. Brenier, and K. Guittet	1
Extension of the Monge-Kantorovich theory to classical electrodynamics Y. Brenier	19
The Monge Ampere equation and optimal transportation L. Caffarelli	43
Logarithmic Sobolev inequalities and spectral gaps E. Carlen and M. Loss	53
Non-smooth differential properties of optimal transport D. Cordero-Erausquin	61
Inequalities for generalized entropy and optimal transportation D. Cordero-Erausquin, W. Gangbo, and C. Houdré	73
Trend to equilibrium for dissipative equations, functional inequalities and mass transportation  C. VILLANI	95