

Nonsmooth optimization and Lagrange multiplier theory

K. Ito¹

Abstract: The Lagrange multiplier theory is developed for nonsmooth optimizations. Based on the theory the primal-dual active set method is developed and analyzed. Specific examples including ℓ^0 and L^0 minimizations and mixed integer programming are examined and presented.

¹ Department of Mathematics
North Carolina State University
Raleigh, North Carolina
kito@math.ncsu.edu