

Meeting: 999, Nashville, Tennessee, AMS CP 1, Session for Contributed Papers

999-90-111 **Anhua Lin*** (alin@mtsu.edu), Dept. of Math. Sci., P.O.Box 34, Middle Tennessee State University, Murfreesboro, TN 37132. *On the global convergence analysis of a class of penalty function methods for general nonlinear programs.*

This paper presents a new framework of using exact-penalty function method for solving general (not necessarily convex) nonlinear programs. This class of methods solves at each iteration a convex quadratic program with quadratic constraints. The focus of this paper is to analyze the global convergence property of these algorithms. We show that for each algorithm in this class, no matter where it starts, every accumulation point of the sequence generated by it is a good approximation to the solution of the nonlinear programming problem. (Received August 17, 2004)