

Engineering Optimization

Introduction

Classical optimization methods: Introduction, Review of single and multi variables optimization techniques with and with out constraints.

Unconstrained optimization techniques: Direct search, Fibonnacci, Golden section, Quadratic interpolation, and Newton methods; Univariate, pattern search, steepest decent methods and variable metric method

Constrained optimization techniques: Cutting plane method, method of feasible directions, exterior and interior penalty function methods

Geometric Programming

Recent developments: GA, ANN, simulated annealing

References:

1. Optimization Theory & Applications by S.S. Rao - Wiley Estern
2. Optimization Methods for Engineering Design by R.L. Fox - Addison Wesley
3. Applied Optimal Design, E J Haug, J S Arora, Wiley
4. Optimization, G V Reklaites, A Ravindren, K M Rogsdeth, Wiley