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Engineering design optimization problems are normally adopted in the specialized literature to show the effectiveness of new constrained optimization algorithms. These nonlinear engineering problems have been investigated by many researchers that used different methods to solve them: Branch and Bound using SQP [24], Re-

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Multi-disciplinary design optimization (MDO) is a field of engineering that uses optimization methods to solve design problems incorporating a number of disciplines. It is also known as multidisciplinary system design optimization (MSDO). MDO allows designers to incorporate all relevant disciplines simultaneously. The optimum of the simultaneous problem is superior to the design found by optimizing each discipline sequentially, since it can exploit the interactions between the disciplines. However

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classes, linear and non-linear optimization. We begin by discussing linear optimization. As the name implies, both the objective function and the constraints are linear functions. Linear optimization problems are also referred to as linear programming problems.

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Mathematical optimization (alternatively spelled optimisation) or mathematical programming is the selection of a best element (with regard to some criterion) from some set of available alternatives. Optimization problems of sorts arise in all quantitative disciplines from computer science and engineering to operations research and economics, and the development of solution methods has been of ...

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Optimization methods are somewhat generic in nature in that many methods work for wide variety of problems. After the connection has been made such that the optimization software can "talk" to the engineering model, we specify the set of design variables and objectives and constraints. Optimization can then begin; the optimization

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