



Deterministic Design Optimization of Structures in Openmdao Framework

By -

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 26 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. Nonlinear programming algorithms play an important role in structural design optimization. Several such algorithms have been implemented in OpenMDAO framework developed at NASA Glenn Research Center (GRC). OpenMDAO is an open source engineering analysis framework, written in Python, for analyzing and solving Multi-Disciplinary Analysis and Optimization (MDAO) problems. It provides a number of solvers and optimizers, referred to as components and drivers, which users can leverage to build new tools and processes quickly and efficiently. Users may download, use, modify, and distribute the OpenMDAO software at no cost. This paper summarizes the process involved in analyzing and optimizing structural components by utilizing the framework's structural solvers and several gradient based optimizers along with a multi-objective genetic algorithm. For comparison purposes, the same structural components were analyzed and optimized using CometBoards, a NASA GRC developed code. The reliability and efficiency of the OpenMDAO framework was compared and reported in this report. This item ships from La Vergne, TN. Paperback.



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