

Abstract Submitted
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Dynamic Optimization on the Eigenvalue Problems KATHERINE

OH, Stuyvesant HS, RICHARD KYUNG, CRG — In many fields of mathematical and physical science, the concept of optimization has been used to make better decisions for complicated dynamic and mathematical problems. In practice, an objective value to measure the quality of the decision is first defined, and then followed by the selection of a defining numerical algorithm for optimization. In this paper, the main focus will be on numerical optimization algorithms on the eigenvalue problems in the modal analysis. In general, one cannot obtain exact closed-form solutions using classical mathematics for the desired optimal eigenvalues in the case of generalized eigenvalue problems. Therefore, to find the desired dynamic characteristics, using a numerical iteration method for optimization is the only practical alternative. In this paper, we have developed a numerical optimization algorithms. The proposed algorithm shows practical usefulness and can solve the problems using much less degrees of freedom of a system.

Katherine Oh
Stuyvesant HS

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