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振动系统动力修改的近频耦合模态子空间摄动法

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COUPLED-MODE SUBSPACE PERTURBATION METHOD FOR STRUCTURE DYNAMIC MODIFICATION

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摘要 本文给出了对振动系统作小修改的一种近频耦合模态子空间摄动法。算例表明这种算法简单、精度高,算法可行。

关键词： 结构动力学 振动分析方法 摄动法 小参数法

Abstract： A coupled-mode subspace perturbation method is presented in this paper. When the structural system has closed natural frequencies, the modes are coapled and the ordinary matrix perturbation method is invalid. By use of the initial modal coordinate transformation, the coupled-mode subspaca is defined. After the next subspace modal transformation, the coupled-mode subspace perturbation method gives the complete perturbed eigensolution. The sample problems demonstrat that the method presented here is accurate and efficient.

Keywords： structural dynamics vibration analysis method perturbation method small parameter method

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