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结构的模态转换

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MODAL TRANSFORMATION OF A STRUCTURE

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摘要

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摘要 提出一种基于全等变换的模态转换方法, 可将振动台模态试验获得的模态, 转换成结构处在自由状况下的模态。对方法的合理性做了论述, 并佐以例证。

关键词:

Abstract: An approach, based on congruent transformation, for modal transform of the structure under different boundary conditions is proposed. The main purpose is to use this approach to transform the elastic mode got from the modal test of a specimen fixed on vibrostand to the mode in free free state of the same specimen. Two kinds of specimen constraints are considered: statically determinate and statically indeterminate. In the first case, modal matrix is constituted of elastic mode and rigid body mode of the specimen. In the second case, released inertia force attachment mode should be added to form the matrix mentioned above. Reasonableness of the approach is expounded and two examples are carried out to demonstrate the feasibility and effectiveness of the approach as well.

Keywords:

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