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投稿时间: 2012-01-14

DOI:

中文关键词: [solid rocket motor](#) [viscoelastic materials](#) [modal analysis](#) [eigenfrequency](#) [frequency dependent modulus](#) CLC number: V435
Document code: A

英文关键词: [solid rocket motor](#) [viscoelastic materials](#) [modal analysis](#) [eigenfrequency](#) [frequency dependent modulus](#)

基金项目:

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中文摘要:

The modulus of viscoelastic materials varies with excitation frequency. However, during modal analysis of frequency dependent materials, a material evaluation frequency is necessary because stiffness cannot be modified during eigenfrequency procedure. As a result, only those vibration modes are accurate, of which eigenfrequency is close to the material evaluation frequency. In order to obtain vibration modes of solid rocket motor (SRM) using material modulus based on frequency which is the same as the eigenfrequency, an iterative approach was proposed. Results of the iterative technique show that frequency modes obtained from the method are in complete agreement with the eigenfrequency and material evaluation frequency.

英文摘要:

The modulus of viscoelastic materials varies with excitation frequency. However, during modal analysis of frequency dependent materials, a material evaluation frequency is necessary because stiffness cannot be modified during eigenfrequency procedure. As a result, only those vibration modes are accurate, of which eigenfrequency is close to the material evaluation frequency. In order to obtain vibration modes of solid rocket motor (SRM) using material modulus based on frequency which is the same as the eigenfrequency, an iterative approach was proposed. Results of the iterative technique show that frequency modes obtained from the method are in complete agreement with the eigenfrequency and material evaluation frequency.

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