

非线性系统模态分叉与模态局部化现象

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摘要 运用匹配法和多尺度法对一个两自由度非线性系统进行了研究, 详细分析了非线性系统的模态分叉和局部化现象

关键词 [非线性模态](#) [分叉](#) [局部化](#)

分类号

BIFURCATION AND LOCALIZATION PHENOMENA OF NONLINEAR MODES IN A NONLINEAR SYSTEM

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Abstract

A 2 degree of freedom system with cubic nonlinear stiffnesses is investigated by use of the matching method and the method of multiple scales. The nonlinear modes are obtained according to their deflection. The bifurcation and localization phenomena of nonlinear modes in the system are analysed in detail. It is shown that the basic mechanism for nonlinear mode localization is not nonlinear asymmetries as concluded by C. Pierre et al., but the properties of nonlinear system, i.e., the dependence of the frequency of...

Key words [nonlinear modes](#) [mode bifurcation](#) [mode localization](#) [matching method](#) [method of multiple scales](#)

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