**学术报告**

**Meshless and Parametric Vibro-acoustic Modeling of Complex Dynamic Systems**

**时间：**2015年**03月13日（周五）**10：00 –11：30

**地点：**机械楼**F210**

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**邀请人：**郑 辉 教授 （振动冲击噪声研究所）

**内容摘要：**

A meshless and parametric method is presented for the vibration analysis of built-up structures. In this method, a structure is divided into a number of substructures naturally based on its physical, geometrical, and kinematic discontinuities. The geometry of a substructure is accurately described in terms of mathematical or design parameters, rather than a computational grid or mesh. An unknown solution variable on each substructure is expressed, in spectral form, as a trigonometric series expansion with an accelerated polynomial rate of convergence. Among other advantages, the solution accuracy and spatial resolution can now be refined effortlessly by simply including more terms in the series expansion, and any secondary variables of interest readily obtained from appropriate mathematical operations. The meshless and parametric modeling makes it better suitable for sensitivity studies, design optimization, and, in particular, for dealing with model uncertainties, engineering and manufacturing errors, or stochastic processes. The accuracy and reliability of this method prediction are demonstrated through numerical examples.