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智能复合材料结构中偏振式光纤传感器系统的研究

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RESEARCH OF POLARIZED OPTIC FIBER SENSORS EMBEDDED IN SMART COMPOSITE STRUCTURE

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摘要

从光的传输方程及光纤的模式耦合特性出发对偏振式光纤传感器在受到拉伸和弯曲变形时的特性进行了探讨, 进行了初步的试验, 并将它应用于智能复合材料结构进行了试验, 取得了较好的结果。

关键词: 光纤传感器 智能结构 复合材料

Abstract:

The output characteristic of a polarized optic fiber sensor under the external influence of bending and stretching is discussed using the means of light's transfer equation and characteristic of modes coupling in optic fibers, and some experiments are done. The polarized optic fiber sensors have been used in smart composite structures, and the location of loading on the structure has been detected successfully.

Keywords: optic fiber sensor smart structures composites

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