

## 基于波叠加方法的半自由场声辐射灵敏度分析

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关键词: 半自由声场 声辐射 波叠加 灵敏度分析

摘要: 利用半自由和自由场波叠加方法, 在存在反射声的半自由空间中, 对声辐射灵敏度进行分析, 仿真结果表明在半自由场空间中用自由场波叠加方法计算声辐射灵敏度, 其幅值大小与理论值大不一样, 两者的变化趋势也相差较大。而应用半自由场波叠加方法, 不论是灵敏度幅值还是其变化趋势都与理论值相吻合, 脉动球声源误差为3.85%, 振动球声源误差为3.78%。The semi-free field wave superposition method and the free-field wave superposition method were utilized to calculate the acoustic sensitivity in the semi-free acoustic field. The simulated results show that the magnitudes and the change of the sensitivity by free field wave superposition method and the theoretical ones are widely divergent; but the results by semi-free field wave superposition method are consistent with the theoretical ones; the computing errors of the pulsating sphere source and the oscillating sphere source are 3.85% and 3.78% respectively.

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