

**Coupled volume analysis
with a high resolution measurement system**

by

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ABSTRACT

This paper presents an experimental study of low frequency behavior in coupled volumes. Geometrical and statistical room-acoustics methods fail to accurately explain acoustic phenomena under these conditions. In order to analytically examine low frequency behavior in coupled volumes, an eighth scale model with a high resolution microphone scanning system has been developed. These high resolution scanning results are used to investigate the characteristics of acoustic wave propagation. The dependence of coupling effects on the size of the coupling aperture and frequency is demonstrated in this paper.