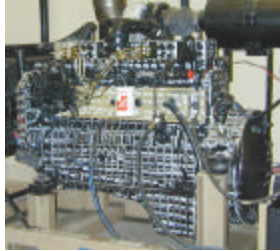


A New Look at the High Frequency Boundary Element and Rayleigh Integral Approximations

Other Projects and Future Directions



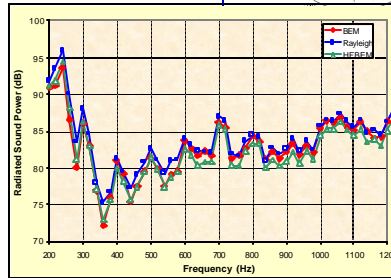
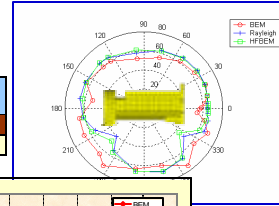
$$p(P) = \iint_S \left(i\rho\omega v_n G(r) + p_s \frac{\partial G(r)}{\partial n} \right) dS$$

$$p_s = \rho c v_n$$

$$p(P) = \iint_S \left(i\rho\omega v_n G(r) \left(1 + \left(\frac{i}{kr} - 1 \right) \hat{s} \cdot \hat{n} \right) \right) dS$$

Timing (seconds/frequency)

BEM	RAYLEIGH	HFBEM
141	21	45



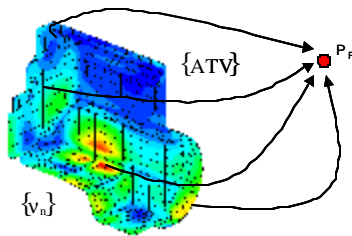
Vibro-Acoustics Consortium

1

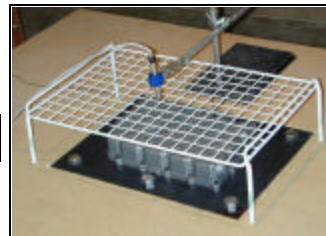


Practical Considerations in Reconstructing the Surface Vibration using Inverse Numerical Acoustics

Other Projects and Future Directions

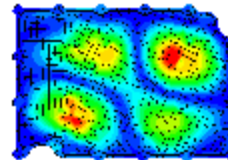
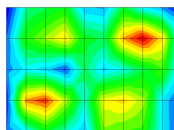


$$p_F = \{ATV\}^T \{v_n\}$$



$$\left| \frac{v_n - \hat{v}_n}{v_n} \right| \leq C \cdot K_2(A) \left(\left| \frac{dA}{A} \right|_2 + \left| \frac{\phi}{p} \right|_2 \right)$$

Field point selection Modeling error Experimental error



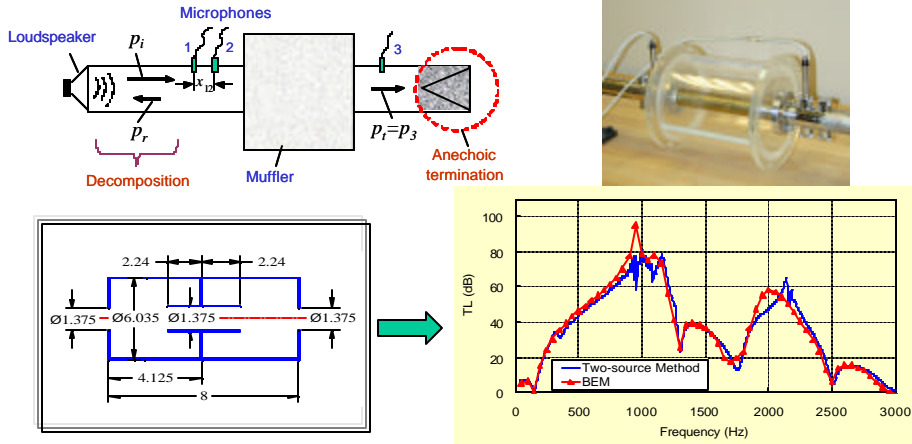
Vibro-Acoustics Consortium

2



A Review of Current Techniques for Measuring Muffler Transmission Loss

Other Projects and Future Directions



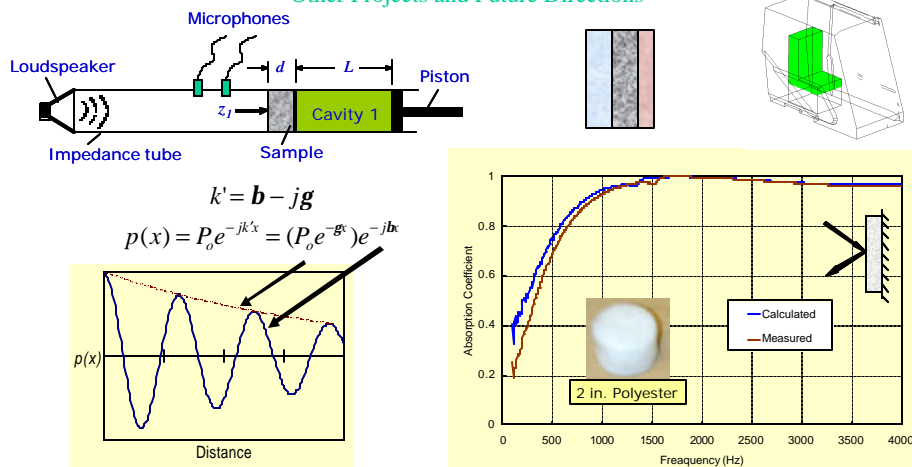
Vibro-Acoustics Consortium

3



Measuring Bulk Properties of Sound-Absorbing Materials using the Two-Source Method

Other Projects and Future Directions



$$k' = b - jg$$

$$p(x) = P_0 e^{-jk'x} = (P_0 e^{-\alpha x}) e^{-j\beta x}$$

Vibro-Acoustics Consortium

4

