

far end or from internal irregularities. Comparing the results of impulse response measurements in an empty tube and a tube filled with sound-absorbing material, we have checked the theoretical predictions on the lower cutoff frequencies of transverse modes of vibration and assessed the influence of asymmetrical and symmetrical modes in the two cases.

The experimental results show good agreement with the predicted behavior and practical suggestions of the AES document on plane-wave tubes [3] and confirm the predictions regarding the limits of usable bandwidth.

The possibility to make "anechoic" measurements of impulse responses with MLS-based systems seems to remove the need of filling the tube with sound-absorbing material. But the results presented here suggest that a good disposition of the sound-absorbing material can give results closer to the ideal situation of constant, resistive acoustic load and simple plane-wave propagation.

5 REFERENCES

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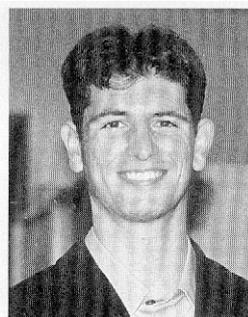
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