OPTIMIZATION OF CROSSOVER FREQUENCY AND CROSSOVER REGION RESPONSE FOR MULTICHANNEL ACOUSTIC APPLICATIONS (ThuAmPO2)

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Abstract :

Given a multichannel loudspeaker system, in a typical single or multiple listener setup, the selection of the crossover frequency between the sub−woofer and the satellite speakers is important for accurate reproduction of playback sound from the corresponding channels. Specifically, the combined sub−woofer and satellite room acoustical response should exhibit negligible variations around the selected crossover frequency and simultaneously allow accurate rendition of audio from the respective channels. In many instances, even after selecting an appropriate crossover frequency, the final combined response may yet have substantial variations that further need to be minimized. In this paper, we present a two−stage approach for minimizing the variations in the combined sub−woofer and satellite room response measured at a given listening position for multichannel audio applications.

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