NEW DIRECT MULTICHANNEL ACTIVE NOISE CONTROL BY FREQUENCY−DOMAIN APPROACH (WedAmPO1)

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Abstract :

A new frequency−domain direct adaptive approach is proposed for general multichannel active noise control (ANC) when both of the primary and secondary path channels are uncertain and changeable. To reduce the cancelling errors, two kind of virtual error vectors are introduced and are forced to zero by adjusting three adaptive FIR filter matrices in an online manner, by which the convergence of the actual cancelling error to zero can be attained at the objective points. Unlike other conventional approaches, the proposed algorithm can give an inverse controller directly without need of explicit identification of the secondary path channels. The proposed algorithm can be implemented in the frequency−domain to reduce its computational complexity.

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