MULTICHANNEL BLIND DECONVOLUTION OF IMPULSIVE SIGNALS (MonPmOR9)

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Abstract :

In this communication, the problem of blind deconvolution of transient, impulsive signals in a multichannel environment is addressed. This kind of signals arise naturally, or are used as external excitation, in many mechanical and acoustical systems and can only be observed indirectly, after propagation through the medium. Blind deconvolution or identification methods published to date are not suitable for recovering these sources or the system response, as identifiability conditions are not met. We fully develop here a deterministic subspace method for the blind deconvolution in a multichannel environment which does not impose any restrictions on the excitation signals or on the impulse response of propagation channels, apart from finite length and channel diversity. The method is also extended to cope with signals in noisy environments.

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