

Compressive sensing with a spherical microphone array - DTU Orbit (08/11/2017)

Compressive sensing with a spherical microphone array

A wave expansion method is proposed in this work, based on measurements with a spherical microphone array, and formulated in the framework provided by Compressive Sensing. The method promotes sparse solutions via ℓ_1 -norm minimization, so that the measured data are represented by few basis functions. This results in fine spatial resolution and accuracy. This publication covers the theoretical background of the method, including experimental results that illustrate some of the fundamental differences with the "conventional" leastsquares approach. The proposed methodology is relevant for source localization, sound field reconstruction, and sound field analysis.

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