USING A SINES + WAVELETS MIXED DICTIONARY FOR IMPROVING MATCHING PURSUIT–BASED PARAMETRIC AUDIO CODING (ThuAmPO2)

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Abstract :

This paper deals with the application of adaptive signal models for representing transients and sinusoids at the same stage in a parametric audio coder. To accomplish such goal, we search for sparse approximations by means of matching pursuit with a mixed dictionary, instead of using two different dictionaries that operate in cascade. In such sense, complex exponentials and wavelets are chosen for modeling the tonal and transient features of an audio signal, respectively. Experimental results clearly show the advantages of the mixed dictionary over two cascaded dictionaries. The approach proposed in this paper is successfully applied for parametric audio coding, assuring better quality than MPEG2/4–AAC at 16 Kbits/s for most of the tested audio signals.

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