

Title (en)

OPTIMIZATION OF BINAURAL SOUND SPATIALIZATION BASED ON MULTICHANNEL ENCODING

Title (de)

OPTIMIERUNG DES BINAURAL EN RAUMKLANGEFFEKTES DURCH MEHRKANALKODIERUNG

Title (fr)

OPTIMISATION D'UNE SPATIALISATION SONORE BINAURALE A PARTIR D'UN ENCODAGE MULTICANAL

Publication

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Application

**EP 07731684 A 20070301**

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Abstract (en)

[origin: WO2007101958A2] The invention concerns sound spatialization with multichannel encoding for binaural reproduction on two loudspeakers, the spatial encoding being defined by encoding functions associated with multiple encoding channels and the decoding by applying filters for binaural reproduction. The invention provides for an optimization as follows: a) obtaining a original set of acoustic transfer functions particular to an individual's morphology (HRIR;HRTF), b) selecting spatial encoding functions (  $g(?, ?,n)$  ) and/or decoding filters (  $F(t,n)$  ), and c) through successive iterations, optimizing the filters associated with the selected encoding functions or the encoding functions associated with the selected filters, or jointly the selected filters and encoding functions, by minimizing an error (c(HRIR,HRIR\*)) calculated based on a comparison between: the original set of transfer functions (HRIR), and a set of reconstructed transfer functions (HRIR\*) from encoding functions and decoding filters, whether optimized and/or selected.

IPC 8 full level

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