

Title (en)

Adaptive spectral transformation for acoustic speech signals

Title (de)

Adaptive Spektraltransformation für akustische Sprachsignale

Title (fr)

Transformation spectrale adaptative pour signaux vocaux acoustiques

Publication

EP 2372707 B1 20130313 (EN)

Application

EP 10156530 A 20100315

Priority

EP 10156530 A 20100315

Abstract (en)

[origin: EP2372707A1] The present invention relates to a method for adaptive transformation of the frequency spectrum of a windowed speech signal. According to the present invention, frequency compression is achieved by applying frequency compression functions, which are dependent upon characteristics of the current frame. Formant boosting takes place using formant-dependent functions to increase the contrast between the formants and the non-formant frequencies in the frequency spectrum of the current frame. Generally, frequencies below a defined threshold are compressed linearly, corresponding to no compression when the slope is equal to 1, while the compression rate of higher frequencies varies over time and frequency depending on the current frame features. Thus features of the input signal located above the frequency threshold are moved into the low-pass range and are audible in the transmitted output signal. The feature based processing is designed to enhance the understandability of speech in the transmitted bandwidth and to increase recognition rates in an automatic speech recognition module.

IPC 8 full level

G10L 21/02 (2013.01)

CPC (source: EP)

G10L 21/0364 (2013.01)

Cited by

CN105632485A; US11170761B2; US10388272B1; US10672383B1; US11488604B2; US9672843B2; US10573312B1; US10971153B2; US11594221B2; US11017778B1; US11145312B2; US11935540B2

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

EP 2372707 A1 20111005; EP 2372707 B1 20130313

DOCDB simple family (application)

EP 10156530 A 20100315