Title (en)

Estimating the pitch of a speech signal using an intermediate binary signal

Title (de)

Abschätzung der Grundfrequenz eines Sprachsignales mit ein Zwischenbinärsignal

Title (fr)

Estimation de la fréquence fondamentale d'un signal de parole à l'aide d'un signal binaire intermédiaire

Publication

EP 1143412 A1 20011010 (EN)

Application

EP 00610034 A 20000406

Priority

EP 00610034 A 20000406

Abstract (en)

A method of estimating the pitch of a speech signal (2) comprises the steps of sampling the speech signal to obtain a series of samples, dividing the series of samples into segments, each segment having a fixed number of consecutive samples, calculating for each segment a conformity function, and detecting peaks in the conformity function. The method further comprises the steps of providing an intermediate signal derived from the speech signal, converting the intermediate signal to a binary signal, which is set to logical "1" where the intermediate signal exceeds a pre-selected threshold and to logical "0" where the intermediate signal does not exceed the pre-selected threshold, calculating the autocorrelation of the binary signal, and using the distance between peaks in the autocorrelation of the binary signal as an estimate of the pitch. The large amount of operations needed in prior art algorithms is thus avoided. A similar device is also provided. <IMAGE>

IPC 1-7

G10L 11/04

IPC 8 full level

G10L 25/90 (2013.01)

CPC (source: EP)

G10L 25/90 (2013.01)

Citation (search report)

- [A] US 5970441 A 19991019 - MEKURIA FISSEHA [SE]
- [A] ALKULAIBI A ET AL: "Fast 3-level binary higher order statistics for simultaneous voiced/unvoiced and pitch detection of a speech signal", SIGNAL PROCESSING. EUROPEAN JOURNAL DEVOTED TO THE METHODS AND APPLICATIONS OF SIGNAL PROCESSING,NL,ELSEVIER SCIENCE PUBLISHERS B.V. AMSTERDAM, vol. 63, no. 2, 1 December 1997 (1997-12-01), pages 133 - 140, XP004102257, ISSN: 0165-1684

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