

Title (en)
METHOD FOR FORMING THE EXCITATION SIGNAL FOR A GLOTTAL PULSE MODEL BASED PARAMETRIC SPEECH SYNTHESIS SYSTEM

Title (de)
VERFAHREN ZUR ERZEUGUNG DES ANREGUNGSSIGNALS FÜR EIN GLOTTALES IMPULSMODELLBASIERTES PARAMETRISCHES
SPRACHSYNTHESESYSYSTEM

Title (fr)
PROCÉDÉ PERMETTANT DE FORMER UN SIGNAL D'EXCITATION DESTINÉ À UN SYSTÈME DE SYNTHÈSE VOCALE PARAMÉTRIQUE
BASÉ SUR UN MODÈLE D'IMPULSION GLOTTALE

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Application
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Abstract (en)
[origin: WO2015183254A1] A method is presented for forming the excitation signal for a glottal pulse model based parametric speech synthesis system. In one embodiment, fundamental frequency values are used to form the excitation signal. The excitation is modeled using a voice source pulse selected from a database of a given speaker. The voice source signal is segmented into glottal segments, which are used in vector representation to identify the glottal pulse used for formation of the excitation signal. Use of a novel distance metric and preserving the original signals extracted from the speakers voice samples helps capture low frequency information of the excitation signal. In addition, segment edge artifacts are removed by applying a unique segment joining method to improve the quality of synthetic speech while creating a true representation of the voice quality of a speaker.

IPC 8 full level
G10L 13/02 (2013.01); **G10L 25/90** (2013.01)

CPC (source: EP)
G10L 13/02 (2013.01); **G10L 25/90** (2013.01)

Citation (search report)

- [A] US 5400434 A 19950321 - PEARSON STEVE [US]
- [XAYI] RAITIO TUOMO ET AL: "Comparing glottal-flow-excited statistical parametric speech synthesis methods", 2013 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH AND SIGNAL PROCESSING (ICASSP); VANCOUCER, BC; 26-31 MAY 2013, INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, PISCATAWAY, NJ, US, 26 May 2013 (2013-05-26), pages 7830 - 7834, XP032509201, ISSN: 1520-6149, [retrieved on 20131018], DOI: 10.1109/ICASSP.2013.6639188 & TUOMO RAITIO ET AL: "Utilizing glottal source pulse library for generating improved excitation signal for HMM-based speech synthesis", 2011 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH AND SIGNAL PROCESSING : (ICASSP 2011) ; PRAGUE, CZECH REPUBLIC, 22 - 27 MAY 2011, IEEE, PISCATAWAY, NJ, 22 May 2011 (2011-05-22), pages 4564 - 4567, XP032001695, ISBN: 978-1-4577-0538-0, DOI: 10.1109/ICASSP.2011.5947370
- [A] TAMAS GABOR CSAPO ET AL: "A novel codebook-based excitation model for use in speech synthesis", COGNITIVE INFOCOMMUNICATIONS (COGINFOCOM), 2012 IEEE 3RD INTERNATIONAL CONFERENCE ON, IEEE, 2 December 2012 (2012-12-02), pages 661 - 665, XP032316820, ISBN: 978-1-4673-5187-4, DOI: 10.1109/COGINFOCOM.2012.6421934
- [A] CABRAL JOAO P ET AL: "Glottal Spectral Separation for Speech Synthesis", IEEE JOURNAL OF SELECTED TOPICS IN SIGNAL PROCESSING, IEEE, US, vol. 8, no. 2, 1 April 2014 (2014-04-01), pages 195 - 208, XP011542567, ISSN: 1932-4553, [retrieved on 20140311], DOI: 10.1109/JSTSP.2014.2307274
- [Y] PRATHOSH A P ET AL: "Epoch Extraction Based on Integrated Linear Prediction Residual Using Plosion Index", IEEE TRANSACTIONS ON AUDIO, SPEECH AND LANGUAGE PROCESSING, IEEE, vol. 21, no. 12, 1 December 2013 (2013-12-01), pages 2471 - 2480, XP011531024, ISSN: 1558-7916, [retrieved on 20131023], DOI: 10.1109/TASL.2013.2273717
- See references of WO 2015183254A1

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