

LOW-SPEED SPEECH CODER ON BASES OF HUMAN AUDITORY MODEL

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In the given paper a model-building method of the low-speed speech coder is presented. The proposed system is based on human auditory model with a sinusoidal speech representation [1] – fig.1. According to conception of the sinusoidal representation the more of sinusoidal components are used for synthesis the better output speech signal represents origin speech. The calculation of an ensemble interval histogram [2] on basis of a cochlear model [3] is used for minimization of the number of sinusoidal components. It is enhances the perceptual quality of output speech.

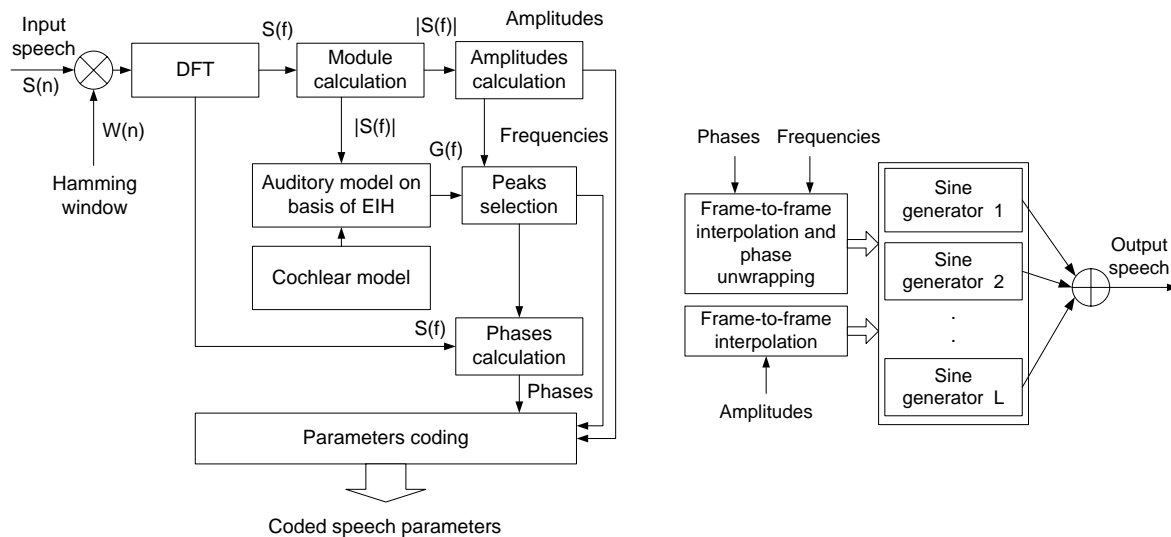


Fig.1. The analysis and synthesis of speech signal

Work of this system has been simulated in the Matlab 5.3. Obtained results are showed on the fig.2. The number of sinusoidal components equal 7. The length of the DFT is 1024. The numbers of cochlear analyzing filters – 64. So, the synthesized output signal has good speech legibility and speaker recognition.

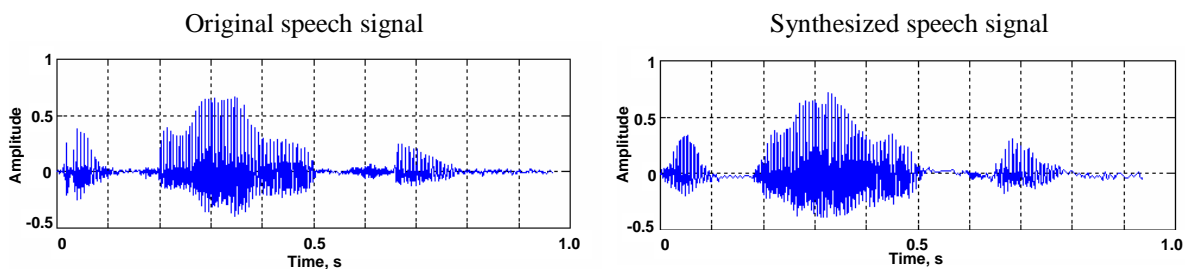


Fig.2. The modeling results

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