
On the issue of vectorization of graphic spectrograms

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To improve the accuracy of parameter estimation of mathematical models of speech signal it is proposed to use the methods of contour image analysis as applied to graphic spectrograms. The use of vectoring allows for selection of individual features of speech based on statistical analysis of the characteristics of contours on the spectrogram. Each selected path is not a closed line containing information about the instantaneous change in the frequency and amplitude components of the speech signal (speech vowel). This takes into account the following features of the speech signal: known values of the average rate of change of the pitch frequency, the minimum distance between individual harmonics, the cross-correlation signal to neighboring traces sound tracks. The paper describes an approach to the formation of an array of data that describes the graphical spectrogram of the speech signal in vector format. It is shown that the graphic representation of the spectrogram as an array of individual circuits provides new features in the areas of analysis, synthesis, processing and classification of voice signals.

Keywords: *spectrogram, vectorization, noise reduction, signal processing.*

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