Decomposition of vowel and consonant contributions to the time-varying vocal tract shape

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An important aspect of speech production is the temporal overlap of the different vocal tract movements that produce vowels and consonants. In previous work a method was proposed for separating the time-varying vocal tract shape of a talker into vowel and consonant superposition functions (Story, 2009). The purpose of this study was to use the method to transform X-ray microbeam articulatory data (XRMB, Westbury, 1994) to parameters that control a model of the vocal tract.

Purpose of the Study

The XRMB data was produced as a continuous-time series of vowel transitions recorded from a non-native talker. The data was then converted to time-varying vocal tract shape using a semi-parametric method (Jones, 2008). The purpose of this study was to decompose the time-varying vocal tract shape into vowel and consonant contributions.

References


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