

论文

## 基于MMSE准则的基频模型

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收稿日期 2004-7-24 修回日期 2005-5-10 网络版发布日期 2007-12-26 接受日期

摘要

在声调与语调相互作用理论的基础上, 该文利用最小均方误差准则有效地提取了连续语流基频曲线的高音线及低音线, 从量化的角度证实了高音线及低音线对连续语流基频曲线的作用及其区别。该文还对声调与语调相互作用的数学模型做了初步探讨, 建立了基频曲线的双线调节及调中值模型, 为合成系统基频灵活有效地调整提供了新的手段, 提高了语音合成系统的自然度。

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分类号 [TN912.3](#)

## Study on Fundamental Frequency Model Based on MMSE Principle

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Abstract

Based on the interaction of tone and intonation, a new method is proposed to get the top line and the bottom line for continuous speech of mandarin, using the Minimum Mean Square Error (MMSE) principle. The research results demonstrate that the top line and the bottom line have different function to the intonation of continuous speech on the part of quantum. The paper also proposes a primary mathematical model to figure the interaction between the tone and intonation. On the basis of the extraction of two lines and the primary model, the two-lines model and the median fundamental frequency model are established separately, which provides a flexible and effective method to modify the intonation and improves the naturalness of speech synthesis system of mandarin greatly.

Key words [Speech signal processing](#) [Fundamental frequency model](#) [Top line](#) [Bottom line](#) [MMSE principle](#)

DOI :

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