

工程与应用

基于分层次聚类的MIDI音乐主旋律提取方法

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摘要 为了准确提取多音轨MIDI主旋律,同时减小主旋律分布在乐器音轨或音高较弱部分所产生的提取误差,提出了基于分层次聚类的多音轨MIDI主旋律提取方法。首先解析MIDI音乐文件,然后去除每一音轨中的控制音符和不包含旋律信息的音轨,通过归并到该文件中的具有音高柱状图特征的音符集,从而提取出主旋律。通过与人工标识结果的实验进行比较,表明该提取主旋律方法的准确性。

关键词 [MIDI解析](#) [多音轨音乐](#) [主旋律提取](#) [分层次聚集法](#)

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Melody extraction method of MIDI music files based on layer clustering

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Abstract

In order to extract melody of polyphonic MIDI music accurately, and reduce the extraction errorless in the case that melody distributed on the instrument channel or located on lowest pitch notes synchronously, this paper proposes an approach to extract melody of polyphonic MIDI music based on layer clustering. First, this paper analyzes the MIDI file; and then eliminates the channels those do not contain melodic information and control notes in each channel; consequently, picks up the melody through the note set which with the feature of pitch histogram summed up in a notepad file. The results are compared with manual output and show that the implemented method can extract melody accurately.

Key words [MIDI analysis](#) [polyphonic music](#) [melody extraction](#) [layer clustering](#)

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