**EXTRACTING VOCAL MELODY FROM KARAOKE MUSIC AUDIO**
(WedPmOR2)

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**Abstract:**
Extracting the melody from polyphonic musical audio is a nontrivial research problem. This paper presents an approach for vocal melody extraction from dual channel Karaoke music audio. The extracted melody corresponds to the singing voice in the original performance channel, which can then be used for melody–based music retrieval. In the proposed technique, audio signals from both the accompaniment channel and the original performance channel are analyzed. The note partials are firstly extracted from the signal, which is represented in constant–Q transform frequency domain. Then the volume balance between the two channels is estimated based on signal approximation in the sub–bands. Finally the pitch corresponding to the singing voice is identified based on the note partial differences between the two channels. The extracted melody is represented as a sequence of pitch values. This technique assumes that the two channels have similar accompaniment instrument performance except for the singing voices. Experimental result on 40 Karaoke music videos has shown the performance of the proposed technique. Melody extraction rate is above 70% and melody retrieval accuracy in an 800–tune–database is 90%.