

Abstract

Music source separation is a challenging task. In particular, under little information of music source, the separation method is only based on the characteristic of music signals. Since different music instruments provide different harmonic structures in the frequency domain, the harmonic structure model has being adopted for music source separation. However, the separation procedure based on average harmonic structure (AHS) involves complicated mathematic induction. In this thesis, a more practical method was thus proposed. First, the harmonic structure was extracted individually from each partitioned frame. Second, a machine learning method, SVM (support vector machine), was adopted to separate the rest in-harmonic structure of signals. Simulation result shows that the signal to distortion ratio (SDR) for piccolo was 19.14 and the SDR organ is 16.04. The performance is higher than the performance of the original method based on AHS model.

Keywords : source separation 、 harmonic structure 、 support vector machine