Abstract

Although a lot of research interest over the last decades emphasized on investi- gating the classical singing voice and in the analysis of proficiency in classical singing, yet until now there exists no commonly used assistance system in higher musical education. One main reason is possibly the lack of acoustical descrip- tors for voice quality and efficiency in singing which can be displayed robust in real-time. Another question arises about the applicability of such descriptors for students and teachers. A possible problem could be, that scientific research software can be too impractical in the use for educational purpose. The main goal of the thesis is to investigate descriptive acoustical parameters known from literature (e.g. used in phoniatrics) which seem to be promising in the use for a real-time feedback system and help to assess and visualize the parameters quality and efficiency in an education friendly software environment. To do so a closer look at parameters which can be used as global descriptors for all voice types (e.g. soprano, alto etc.) is necessary. Knowledge about voice production in classical singing seems indispensable for correct analysis. Especially, the optimization of the vocal tract configuration deserves a closer look, which is commonly known as formant tuning and the main reason for the possibility to sing for large audiences in an unamplified setting.