Hideki Kawahara
Wakayama University

A new dimension of voice quality manipulation

Voice quality plays important roles in communication. It provides additional communication channels for non- and paralinguistic information. Extension of a multi-aspect temporally variable morphing framework based on TANDEM-STRAIGHT, by introducing a new texture-related parameters, enables modification of this communication channels while preserving naturalness of the original speech. This talk starts from a brief summary of current state of STRAIGHT and then, introduces finer analysis and synthesis procedures of excitation source related parameters which are basis of this extension. Signal processing aspects such as new instantaneous frequency representation, F0 extraction with higher temporal resolution, parametric representation of aperiodic components and higher statistical aspect such as sound texture provide basis and motivation of this extension.