SCALABLE, PERCEPTUAL BASED ECHO ASSESSMENT METHOD FOR AURALLYADEQUATE EVALUATION OF RESIDUAL SINGLE TALK ECHOES

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ABSTRACT
The paper addresses a scalable objective echo assessment method to evaluate echo disturbances in telecommunication scenarios. In the first section the perceptual based echo analysis method is presented. It is designed for the aurally-adequate evaluation of residual single talk echoes in narrowband as well as in wideband transmission scenarios. The core of the model consists of the Relative Approach, an acoustical analysis method originally developed to detect unexpected and disturbing patterns. The masking of residual echoes by the far end speakers' sidetone is considered using a differential Relative Approach. The model makes use of specifically selected real speech test signals, its characteristics are described in the course of this paper. Training and validation of the model based on auditory assessed data is discussed. The scalable implementation of the model allows the echo acceptance estimation of measured terminals in different network scenarios introducing different interconnection delays. Some application examples are shown in the last section of this paper. Ideas for future work are given.