

# **Comparison of Design Methods for Near-Perfect-Reconstruction Filter Banks with Critical Sampling**

T. Ruśc and U. Heute

Institute for Circuit and System Theory, Christian-Albrechts-University, Kaiserstr. 2, D-24143 Kiel, Germany, {tru, uh}@tf.uni-kiel.de

## **ABSTRACT**

Cosine-modulated near-perfect-reconstruction filter banks with critical sampling can be designed by various methods. Three approaches are compared with respect to the achievable quality, as described by the following quality parameters: maximal linear distortion, maximal aliasing distortion, mean-square linear distortions, mean-square aliasing distortions. Based on extensive simulations, new formulae for the estimations of the quality from filter bank parameters are derived. Problems in special cases are discussed.