# MINIMUM-PHASE FIR FILTER DESIGN USING REAL CEPSTRUM

**Author(s):**
- Soo-Chang Pei  
  National Taiwan University, Taiwan  
- Huei-Shan Lin  
  National Taiwan University, Taiwan

**Abstract:**
The real cepstrum is used to design an arbitrary length minimum-phase FIR filter from a mixed-phase sequence. There is no need to start with the odd-length equiripple linear-phase sequence first. Neither phase-unwrapping nor root-finding is needed. Only two FFTs and an iterative procedure are required to compute the filter impulse response from real cepstrum; the resulting magnitude response is exactly the same with the original sequence.