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Speech Title (English):		
Fast and Accurate Frequency Estimation for Complex Single-Tone Signal Based on DFT Interpolation		
Speech Abstract		
<p>Frequency measurements for complex single-tone signals under additive Gaussian noise cover extensive engineering fields. Existing direct discrete Fourier transform (DFT) interpolation methods suffer both degraded accuracies under noisy conditions and biased estimation performances for a restricted number of samples. To address these problems, this speech will present a fast and accurate frequency estimation scheme using two-sample DFT interpolation. Firstly, this work introduces a frequency deviation detector that can exactly recognize the interpolation direction. The suggested scheme exhibits good noise tolerance and can provide exact bias corrections for small and medium numbers of samples, which can serve as an efficient frequency estimation scheme in various engineering fields.</p>		