Abstracts

Harmonic Analysis of SAW Transducers

C.M. Panasik and B.J. Hunsinger. "Harmonic Analysis of SAW Transducers." 1978 Transactions on Microwave Theory and Techniques 26.6 (Jun. 1978 [T-MTT]): 447-450.

The excitation function of an interdigital transducer (IDT) is determined by measuring the discrete impulse response, taking into account the first seven harmonics of the frequency domain. Using a time segregation method, all non-SAW time-domain components are suppressed. A single transducer is isolated by a method of autodeconvolution that utilizes a theoretically derived phase function. The resulting excitation function provides experimental insight into the operation of IDT electrodes and compares well with the theoretical response of Smith and Pedler. The basic analysis technique can be used for other configurations, once the frequency-domain phase response of one transducer is known.

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