Abstracts

A New Interdigital Electrode Transducer Geometry

K.M. Lakin, D.W.T. Mih and R.M. Tarr. "A New Interdigital Electrode Transducer Geometry." 1974 Transactions on Microwave Theory and Techniques 22.8 (Aug. 1974 [T-MTT]): 763-768.

A new interdigital electrode transducer geometry has been conceived and its theoretical performance verified experimentally. The transducer is composed of sets of electrodes which are connected in series through an offset or "dog-leg" electrode, thereby significantly increasing the electrical impedance of the transducer over that of a conventional one having the same aperture. This transducer radiates and receives a uniform straight-crested wavefront. The transducer is shown to have unique impedance properties suited for wide-aperture surface-wave devices or those requiring some form of wave-amplitude weighting. Experiments have been conducted on YZ LiNbO/sub 3/ which verify that the terminal impedance of the transducer is proportional to the square of the number of equal-aperture constant-amplitude sections.

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