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Abstract

We studied mechanical-to-electrical power conversion of a piezoelectric plate driven mechanically into thickness-stretch vibrations. We have derived an analytical solution from the three-dimensional equations of linear piezoelectricity that shows the role of each of the physical parameters in determining the performance of such a piezoelectric device, usually measured by the output power density, the power efficiency, or both. Numerical results are included for illustrating the dependence of the device performance upon these physical parameters.

Keywords

Interface wave, Piezoelectromagnetic