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### **Abstract**

Two-dimensional equations for coupled extensional, flexural and thickness-shear motions of thin plates of piezoelectric semiconductors are obtained systematically from the three-dimensional equations by retaining lower order terms in power series expansions in the plate thickness coordinate. The two-dimensional equations are specialized to crystals of 6 mm symmetry and are simplified by thickness-shear approximation. Propagation of thickness-shear waves and their amplification by a dc electric field are analyzed.

### **Keywords**

Piezoelectric, Semiconductor, Plate