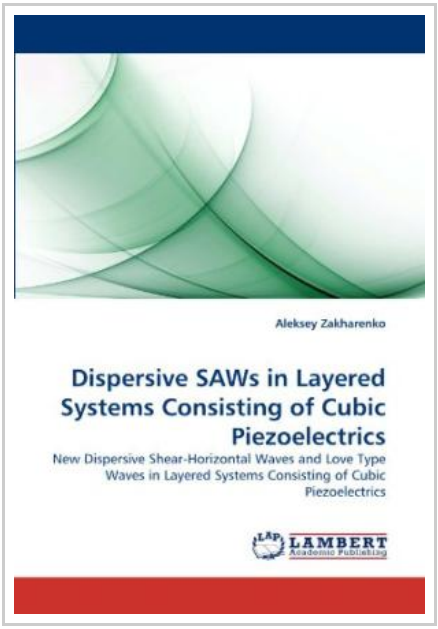

Dispersive SAWs in Layered Systems Consisting of Cubic Piezoelectrics

By Zakharenko, Aleksey

Book Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | New Dispersive Shear-Horizontal Waves and Love Type Waves in Layered Systems Consisting of Cubic Piezoelectrics | This work studies propagation of different SH-SAWs treating various configurations using the cubic crystals Bi12SiO20 and Bi12GeO20, which possess strong piezoelectric effect. Possible cuts for the wave propagation are treated when an even-order symmetry axis of a crystal is perpendicular to the sagittal plane, and when some analytical solutions can be obtained studying propagation direction [101] in the crystals. Calculations of the phase velocity and the CEMC versus the layer thickness were carried out. Numerical results on propagation of the seven-partial Love type waves were also introduced for different electrical boundary conditions: metallized and non-metallized surfaces. Also, new dispersive SAW possessing single mode was discovered concerning direction [101] in various layered systems consisting of the cubic crystals. It is thought that the obtained results can be also useful in the application of inter-digital transducers for excitation of different SAWs in structural health monitoring. In addition, a theoretical study of three-layer structures consisting of widely-used weak piezoelectrics (GaAs/GaP/GaAs and GaAs/GaP/ZnTe) was also carried out. | Format: Paperback | Language/Sprache: english | 72 pp.

Reviews

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