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(57) Abstract :

METHOD AND SYSTEM FOR DERIVING NOVEL FREQUENCY EQUATION FOR DISTRIBUTION OF LONGITUDINAL WAVES IN ELASTIC SOLID ABSTRACT Provided is an anisotropic medium for mode conversion of an elastic wave. The anisotropic medium is disposed between external isotropic media and, as an anisotropic layer, causes a multimodal transmission phenomenon with respect to an incident elastic wave of a specific mode. The anisotropic medium has a non-zero mode-coupling stiffness constant, and the stiffness constant and excitation frequency-dependent thickness of the anisotropic layer satisfies the following equation (2), which is a same direction phase-matching condition, or the following equation (3), which is an opposite direction phase-matching condition. Thus, mode conversion Fabry-Perot resonance is generated. Equation (2): $\Delta\phi = k_{ql}d - k_{qs}d = (2n+1)\pi$, (k_{ql} : wave number of the anisotropic medium in a quasi-longitudinal mode, k_{qs} : wave number of the anisotropic medium in a quasi-shear mode, d : thickness of the anisotropic medium, n : arbitrary integer) Equation (3): $\Sigma\phi = k_{ql}d + k_{qs}d = (2m+1)\pi$.

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FORM 2
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&
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COMPLETE SPECIFICATION
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