Abstracts

Theory of Rayleigh Wave Coupling Between Two Substrates by Means of a Solid Layer

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When a Rayleigh wave is generated on a piezoelectric substrate, coupling to the Rayleigh wave on an adjacent piezoelectric substrate can be effected via the evanescent electric field in the air gap when the two substrates are brought close together. If the adjacent substrate is not piezoelectric, however, this method is no longer feasible and an alternative scheme must be employed. Such a scheme has recently been proposed and experimentally demonstrated. The coupling under these conditions is achieved by inserting a layer of fluid or solid between the two substrates, and energy is transferred via the mechanical rather than electric field.

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