Nowacki

Static and Dynamic Coupled Fields in Bodies with Piezoeffects or Polarization Gradient

The basic subject chosen for this book is directly associated with physics of piezoelectricity and some other electro-magneto-thermo-elastic coupling phe nomena in solids. Fundamentals of physics of electromechanical interactions in dielectric bodies have been studied, both theoretically and experimentally, by a great number of researchers being reflected in multiple publications. It will be worthwhile to start our reference list from the old books by P. Curie [1] and W. Voigt [2]: the first discovered piezoelectricity experimentally (1880) and the second established its relation to the crystalline structure (1884). We shall not go to detailed history of this field of science. One can find it in many more recent monographs devoted, in part or totally, to linear piezoelec tricity [3-9], to its nonlinear aspects [10-14] and to linear electromechanical coupling arising due to more delicate physical reasons and existing even in centrosymmetric media [15, 16]. The book is related to series of theoretical studies of electro-elastic fields in solids with piezoelectric coupling or polarization gradient.

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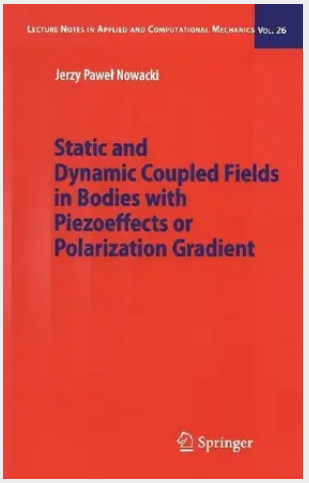

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