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Sommario/riassunto	Random fields are a necessity when formulating stochastic continuum theories. In this book, a theory of random piezoelectric and piezomagnetic materials is developed. First, elements of the continuum mechanics of electromagnetic solids are presented. Then the relevant linear governing equations are introduced, written in terms of either a displacement approach or a stress approach, along with linear variational principles. On this basis, a statistical description of second-order (statistically) homogeneous and isotropic rank-3 tensor-valued random fields is given. With a group-theoretic foundation, correlation functions and their spectral counterparts are obtained in terms of stochastic integrals with respect to certain random measures for the fields that belong to orthotropic, tetragonal, and cubic crystal systems.

The target audience will primarily comprise researchers and graduate students in theoretical mechanics, statistical physics, and probability.