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	Nota di contenuto	1 Introduction -- Part I Theoretical basics -- 2 Piezoelectric materials -- 3 Fundamental solutions.- 4 Numerical realization by BIEM -- Part II Homogeneous PEM -- 5 Steady-state problems in a cracked anisotropic domain -- 6 2D wave scattering by cracks in a piezoelectric plane -- 7 Piezoelectric cracked finite solids under time-harmonic loading -- 8 Dynamic crack interaction in piezoelectric and anisotropic solids -- 9 Different electric boundary conditions -- Part III Functionally graded PEM -- 10 In-plane crack problems in functionally graded piezoelectric solids -- 11 Functionally graded piezoelectric media with a single anti-plane crack -- 12 Multiple anti-plane cracks in quadratically inhomogeneous piezoelectric finite solids -- 13 Anti-plane cracks in exponentially inhomogeneous finite piezoelectric solid -- 14 Exponentially inhomogeneous piezoelectric solid with a circular anti-

plane hole -- 15 Anti-plane dynamic crack–hole interaction in a functionally graded piezoelectric medium -- Index.

| Sommario/riassunto | Dynamic Fracture of Piezoelectric Materials focuses on the Boundary Integral Equation Method as an efficient computational tool. The presentation of the theoretical basis of piezoelectricity is followed by sections on fundamental solutions and the numerical realization of the boundary value problems. Two major parts of the book are devoted to the solution of problems in homogeneous and inhomogeneous solids. The book includes contributions on coupled electro-mechanical models,computational methods, its validation and the simulation results, which reveal different effects useful for engineering design and practice. The book is self-contained and well-illustrated, and it serves as a graduate-level textbook or as extra reading material for students and researchers. |