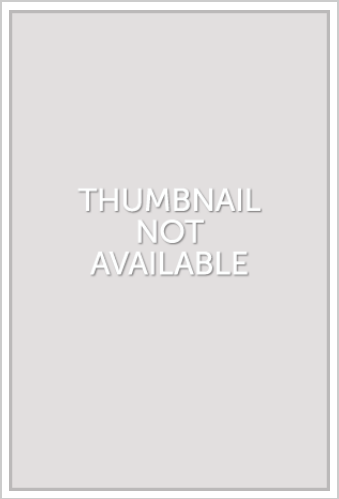

Fracture mechanics of multifield materials

By Rogowski, Bogdan

Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Methods of analysis and solutions of crack problems | This book deals with fracture mechanics of magneto - electro - thermo - elastic materials (multifield materials). An analytical formulae which describe full coupled fields in "smart" material under general external loadings, different shapes of cracks and some class of boundary conditions are solved and analyzed. Unlike in the case of elastic materials, fracture problems in multifield materials (METEMs) involve some fundamental issues that are not yet resolved. For example, there is no consensus on the electric and magnetic boundary conditions of a crack whether they are permeable and impermeable. Are crack surfaces traction free or are Coulomb tractions exist? Also, there is no consensus of electric and magnetic excitation on crack propagation. My book clarified some questions encountered in fracture mechanics of "smart" composite materials made by METEMs. Nowadays, METEMs and composites made from them have wide range in engineering applications such as space planes, supersonic, air plane rockets, missiles fusion, reactors and submarines. | Format: Paperback | Language/Sprache: english | 308 pp.

Reviews

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