Mathematical Physics

Weight function in a bimaterial strip containing an interfacial crack and an imperfect interface. Application to Bloch-Floquet analysis in a thin inhomogeneous structure with cracks

A. Vellender, G.S. Mishuris, A.B. Movchan

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We define a weight function in a bi-material strip containing a semi-infinite crack and an imperfect interface and analyse a problem of anti-plane shear. We then present an asymptotic algorithm which uses the weight function to evaluate the coefficients in asymptotics of solutions to problems of wave propagation in a thin bi-material strip containing a periodic array of cracks situated at the interface between two materials.

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