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STRAIN ENERGY RELEASE RATE (SERR) FOR AN EDGE CRACK AT THE BI-MATERIAL INTERFACE IN AN ORTHOTROPIC PLATE SUBJECTED TO UNIFORM AXIAL TRACTION

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Abstract

This paper presents the results of FEM parametric investigations carried out to study the fracture behavior of an edge interface crack in an orthotropic plate subjected to Uniform Axial Traction. The parametric study is carried out by varying the non-dimensional crack-tip element size (Δe/a), where, Δe = crack-tip element size and a = crack length. The front-end commercial Finite Element Software ANSYS [6] along with its fracture analysis capabilities is used in this present study. The Strain Energy Release Rate(SERR) components associated with crack are computed using MCCI method [7].