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# Comparative Analysis of Three Different Cohesive Zone Models

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Three cohesive-zone models, the first initially proposed by Crisfield and co-workers and later modified by Alfano & Crisfield, the second developed by Allix and Ladevèze and the third developed by Valoroso & Champaney, are used for studying a set of debonding problems. The models consider irreversible damage of the interface and account for mixed-mode debonding by satisfying a generalized ellipse-like interaction criterion. In this paper a comparative analysis of the three models is carried out; results are presented and discussed for numerical simulations referring to both single-mode and mixed-mode situations. Pure mode I tests were simulated using two different thicknesses of the arms. The influence of the thickness on the simulations was also investigated for the mixed mode situation. The results show that the differences between the load-deflection curves obtained for the three models considered become more evident by increasing the stiffness of the specimen.

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