

DERIVATION OF A SOFT IMPERFECT INTERFACE MODEL WITH DAMAGE AND TEMPERATURE

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In this lecture, a model describing a layered structure composed by two thermoelastic adherents and a thin adhesive subject to a degradation process is presented. By an asymptotic expansion method, a model of imperfect interface coupling damage and temperature evolution is derived. Moreover, assuming that the behaviour of the adhesive is ruled by two different regimes, one in traction and one in compression, a limit model where unilateral contact conditions on the interface are also included is also derived. A simple numerical example showing the couplings between damage and temperature is presented.

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