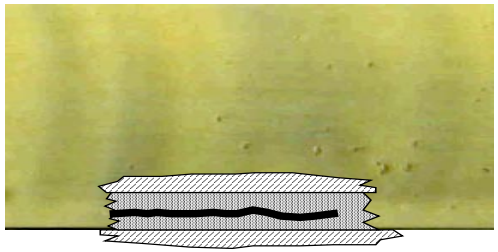
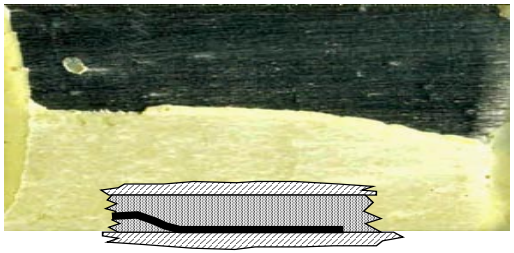
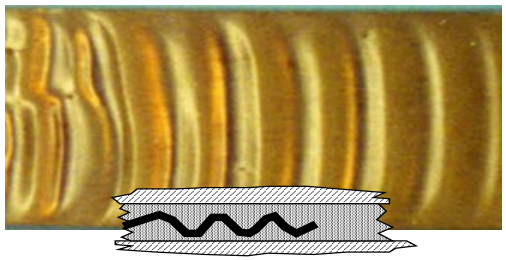


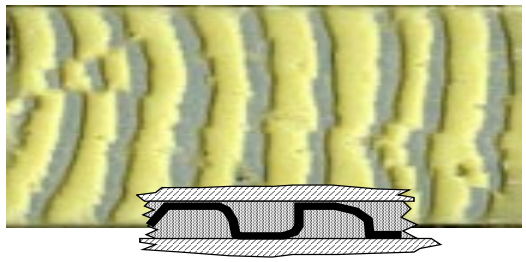
a). Cohesive Failure



b). Interfacial Failure



c). Oscillatory Failure



d). Alternating Failure

Fig. 1. Different locus of failure and crack trajectories observed in mode I testing of adhesively bonded double cantilever beam (DCB) specimens.

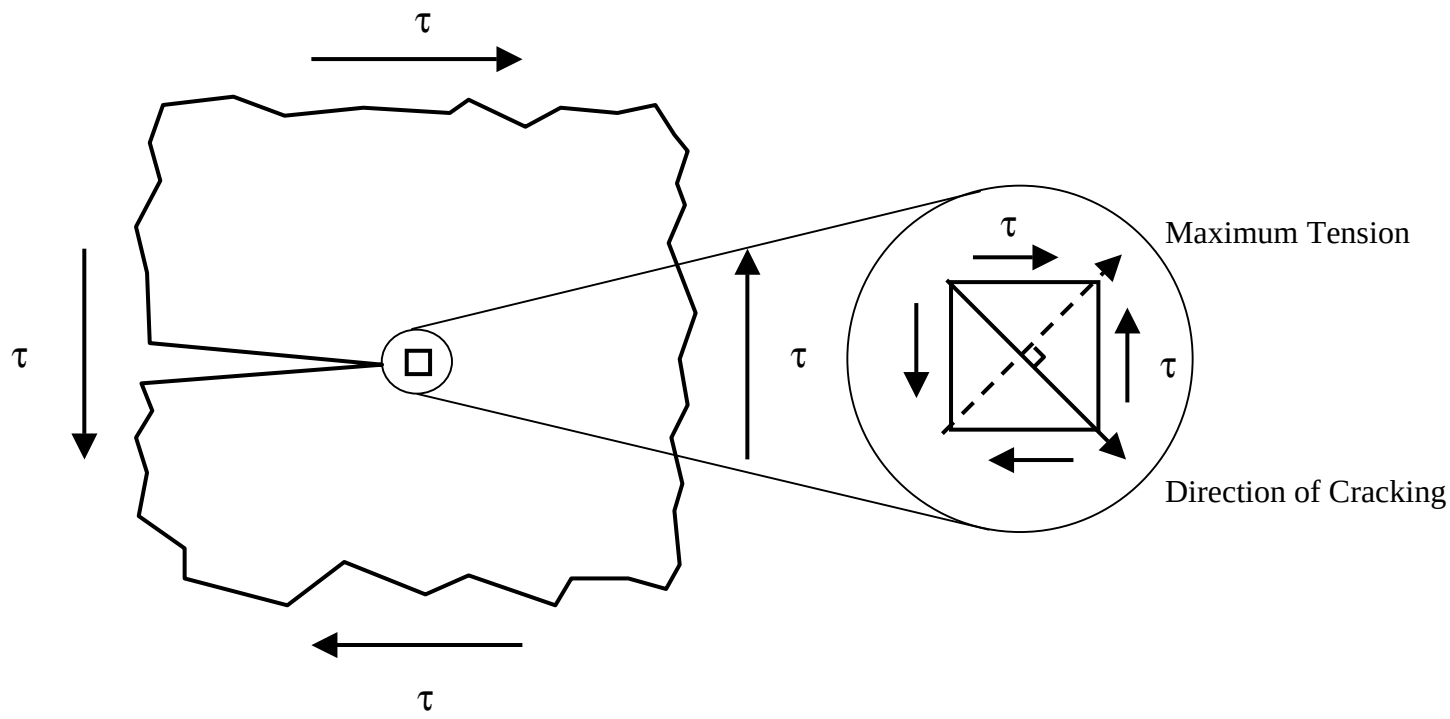


Fig. 2. A crack under pure shear loading. The direction of crack propagation is perpendicular to the direction of maximum tension.

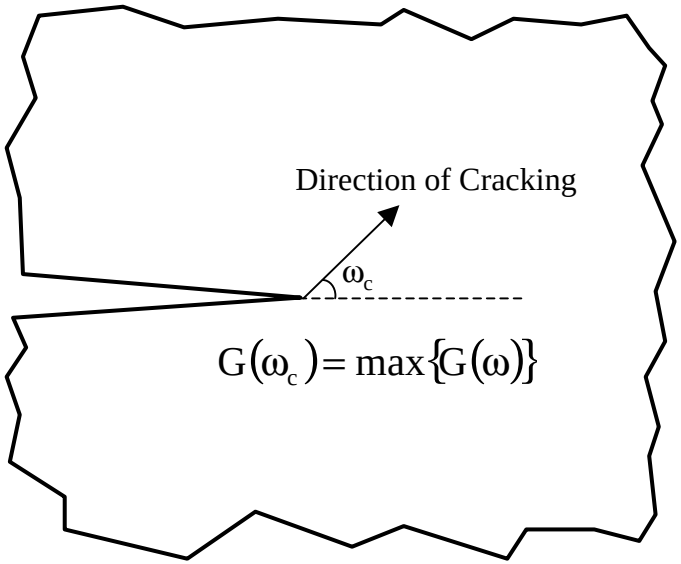


Fig. 3. The direction of crack propagation can be determined by maximizing the strain energy release rate as a function of the crack kinking angle.

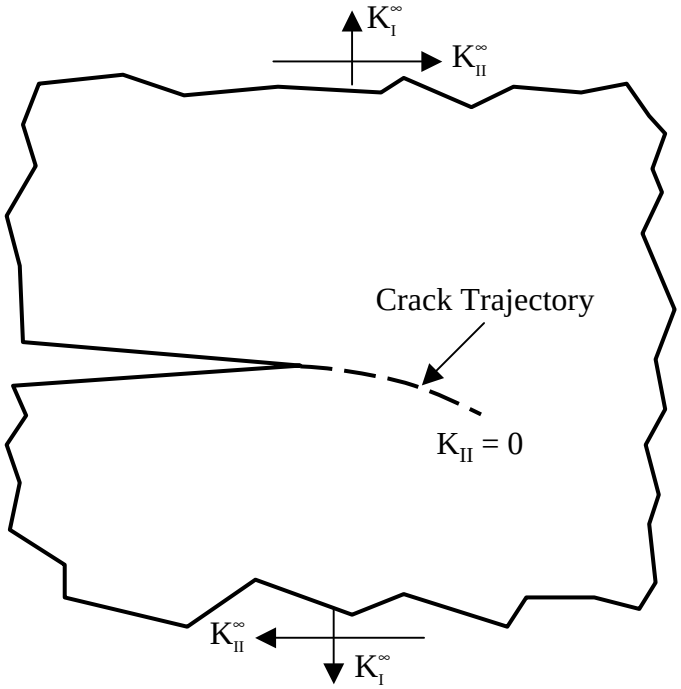


Fig. 4. For a crack under mixed mode loading, the crack will propagate along a trajectory such that mode I fracture is maintained at the crack tip.