

FLEXURE OF STATICALLY INDETERMINATE CRACKED BEAMS.

Baluch Mohammed H., Azad Abul K.

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Abstract: A model, previously proposed for simulation of stability of cracked columns, has been applied rationally to the bending of cracked flexural members to observe the influence of a crack on the distribution of internal forces. The model assumes nonpropagating elastic cracks. A slope-deflection formulation is used to find the bending moment distribution. Results show that the presence of a crack causes a redistribution of internal forces which depends upon the value of the nondimensional parameter α , α being related to the compliance of the crack.