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Size Effect in Tensile Fracture of Concrete – A Study Based on Lattice Model Applied to CT-Specimen

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In this paper, a study on size effect in tensile fracture of concrete and simulation of strain softening of plain concrete using 2D lattice model is presented. A compact tension specimen (CT) is adopted and triangular lattice network is used to simulate the heterogeneous structure of concrete. A computer program is developed to generate random variation of Young's modlulus values foe each element presentin the lattice, which can represent a heterogeneous concrete medium. Load Vs. CMOD plots thus obtained shows softening behaviour of concrete. Size effect curve in tensile strength of concrete has been plotted.

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