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Abstract

Concrete is the main constituent material in many structures. The behavior of concrete is nonlinear and complex. Increasing use of computer based methods for designing and simulation have also increased the urge for the exact solution of the problems. This leads to difficulties in simulation and modeling of concrete structures. A good approach is to use the general purpose finite element software ABAQUS. In this paper a 3D model of a concrete cube is prepared using smeared crack model and concrete damage plasticity approach. The validation of the model to the desired behavior under monotonic loading is then discussed.

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Keywords

Finite Element Abaqus Smearred Cracking Concrete Damage Plasticity Tension Stiffening