عنوان مقاله:

Comparative Study on the Cyclic Compressive Constitutive Models of Concrete

محل انتشار:

دومین کنفرانس بین المللی مقاوم سازی لرزه ای (سال: 1388)

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خلاصه مقاله:

The computational simulation of the nonlinear behaviour of reinforced concrete structures is significantly depends on the properly modelling of nonlinear constitutive laws of concrete and reinforcing steel. The behaviour of structural concrete under monotonic loading is affected by important material aspects including cracking, crushing, tensionstiffening, compression softening and bond slip. Reversed cyclic loading introduces further complexities such as stiffness degradation in concrete and the Bauschinger effect in reinforcing steel. In this study the validity and reliability of some proposed cyclic and monotonic models for concrete considering compression are evaluated. Amongst many existing models, because of their simplicity and common usage in the finite element analysis of RC structures, only some common proposed models based on nonlinear elasticity-based approach are investigated. These models are verified against experimental data available in the literature and the results are discussed

کلمات کلیدی:

computational simulation, constitutive model, concrete, cyclic compression loading