

International Conference on

**CIVIL & STRUCTURAL ENGINEERING**

June 21-22, 2018 Paris, France

**A novel nonlinear modeling technique for Beam-Column Joints Reinforced by Plain Bars****Mahdi Adibi, Reza Allahvirdizadeh, Mohammad S. Marefat**  
University of Bojnord, Iran

Vulnerability of concrete beam-column joints reinforced by plain bars is one of the most usual damage modes during earthquakes between a large number of old buildings before the mid-1970s, that caused by either diagonal shear cracks or intersectional cracks. Diagonal cracks at the panel zone of the joint caused by shear resistance of the joint and intersectional crack caused by bar slippage. In this study, a relatively simple and efficient nonlinear model is proposed to simulate pre- and post-elastic behavior of the joints which fail under bar slippage mode. In this model, beam and column components are represented by linear elastic elements, dimensions of the joint panel are defined by rigid elements, and effect of slip is taken into account by a nonlinear rotational spring at the end of beam. The proposed method is validated by experimental results for both internal and external joints

**Biography**

Mahdi Adibi has completed his PhD from University of Tehran in Iran. He is the Head of the department of Structural Engineering at University of Bojnord, a premier research organization.

m.adibi@ub.ac.ir

**Notes:**