عنوان مقاله:

Behavior Investigation of Rectangular Concrete Columns Confined by Fiber Reinforced Polymer Composites

محل انتشار:

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نویسندگان:

Hamed Hasani - *M.Sc. Student, Civil Engineering Dep., University of Birjand, Birjand, Iran*

Hashem Jahangir - *Assistant Professor, Department of Civil Engineering, University of Birjand, Birjand, Iran*

Danial Rezazadeh Eidgahee - *Faculty of Civil Engineering, Semnan University, Semnan, Iran*

HamidReza Nasseri - *Assistant Professor, Department of Civil Engineering, University of Birjand, Birjand, Iran*

خلاصه مقاله:

Although the best concrete columns are those with circular cross-sections, in most cases, constructing concrete columns with square and rectangular cross-sections is inevitable. Moreover, most of the existing concrete columns need to be strengthened to achieve the new codes and design rules requirements. Among existing strengthening techniques, fibre-reinforced polymer (FRP) composites have been introduced to perform better than other methods because of their valuable advantages, such as low weight and high strength. In this paper, a database of rectangular concrete columns with different geometrical properties, which were confined by fibre-reinforced polymer composites, were investigated by some numerical models to predict their compressive strength. Then, the best numerical model was selected based on lower error values and higher correlation coefficients. The results of this study show that the Wu & Wei (۲۰۱۰) model with R and MAPE values of ۰.۹۴۳۱ and ۱۳.۱۸ %, respectively, is the most proper model among other suggested numerical models.

کلمات کلیدی:

Rectangular columns, fibre-reinforced polymer, confinement

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