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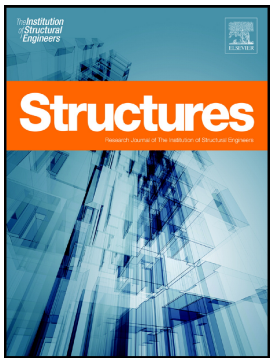

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Influence of the Location of CFRP Strips on the Behaviour of Partially Wrapped Square Reinforced Concrete Columns under Axial Compression

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Keywords: Square columns; Carbon fibre; Partial wrapping; Wrapping schemes; Steel ties; Concentric load.

ABSTRACT

This study investigates the effect of the location of Carbon Fibre Reinforced Polymer (CFRP) strips on the performance of partially wrapped square reinforced concrete (RC) columns under axial compression. Three column specimens with 150 mm x 150 mm cross-section and 800 mm height were tested. One specimen was the reference RC specimen, one specimen was partially wrapped with CFRP strips without considering the location of the steel ties, and the other specimen was partially wrapped with CFRP strips located in between the steel ties. The experimental results showed that wrapping the square RC column specimens with CFRP strips enhanced the strength and ductility under axial compression. For the similar amount of CFRP strips, the specimen partially wrapped